



Public Health Research Consortium

Project Final Report

Helping chronically ill or disabled people into work: what can we learn from international comparative analyses?

Final report to the Public Health Research Programme, Department of Health
Revised 28 April 2009 version

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The work was undertaken by the University of Liverpool (Margaret Whitehead PI) as part of the Public Health Research Consortium. The Public Health Research Consortium is funded by the Department of Health Policy Research Programme. The views expressed in the publication are those of the authors and not necessarily those of the DH. Information about the wider programme of the PHRC is available from www.york.ac.uk/phrc.

Acknowledgements

The research team at the University of Liverpool would like to thank the following for additional support for the systematic review process in this project: Clara Bamba (University of Durham), Kate Misso (Centre for Reviews and Dissemination, York University), and Sue Povall (University of Liverpool).

Thanks are due also for advice and support given to the project by the members of the Consortium, in particular the Director, Hilary Graham, and Advisory Group members Mark Petticrew and Nigel Rice.

The UK work on the project was funded by the Department of Health Policy Research Programme. Additional funds were awarded for international meetings by the School of Population, Community and Behavioural Sciences Research Strategy Group, University of Liverpool, and Professor Espen Dahl's research programme, Norway. We also thank Professor Espen Dahl and his team for hosting the project meeting in Oslo in February 2007 and Professor Finn Diderichsen and his team for hosting the project team meeting in Copenhagen in May 2008.

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PREFACE

What the study adds to knowledge

This project has added to knowledge in five main areas:

It has mapped the range and types of policies and interventions that have been implemented in Canada, Denmark, Norway, Sweden and the UK that may influence employment chances for chronically ill and disabled people. By doing so it has added to understanding about what has actually been tried in each country and what might be considered in others.

It has refined a typology of the focussed interventions that have been identified, based on the underlying programme logic of the intervention, which aids strategic thinking about national efforts to help chronically ill and disabled people into work.

It has produced systematic reviews of the impact of the focussed interventions on the employment chances of chronically ill and disabled people and demonstrated the use of the typology in helping to interpret the results of the evaluations.

The project's empirical analyses of individual-level data have identified how chronically ill people from different socio-economic groups have fared in the labour markets of the five countries over the past two decades. It has then tested these findings against hypotheses about the impact of macro-level labour market policies on chronically ill people to provide insights into the influence of the policy context.

The project has contributed to methodological development in evidence synthesis and the evaluation of natural policy experiments. By studying a small number of countries in great depth, we gained greater understanding of the policies and interventions that have been tried in these countries to help chronically ill and disabled people into work, against the backdrop of the wider labour market and macro-economic trends in those countries. We then integrated evidence from the wider policy context into the findings of systematic reviews of effectiveness of interventions, to advance interpretation of the natural policy experiments that have been implemented in these countries.

1. Executive Summary

PHRC Project: Helping chronically ill and disabled people into work: what can we learn from international comparative analyses?

Background

Chronic illness and impairment can have high social and economic consequences for individuals, their families and society. Disability is one serious consequence, when individuals experience disadvantage resulting from barriers to educational, employment and other opportunities that have an impact on people with ill health or impairment. In the UK, employment rates for people with a chronic illness and disability are low and 2.6 million chronically ill or disabled people are on incapacity benefits (around 7% of the working age population). The personal costs to the out-of-work individuals are considerable and may include economic hardship and social exclusion, both of which are threats to health. As chronic illness, disability and non-employment are socially patterned, with increasing risk with decreasing socio-economic position, these trends have the potential to generate further social inequalities in health. Other comparable countries are facing similar problems, though the magnitude varies in different contexts, and provides the opportunity for policy learning.

While the employment opportunities of chronically ill and disabled people is thus a major policy issue, very little is known about the impact on employment and health of measures to increase economic activity rates for these target groups. A raft of policy initiatives in the selected countries has been triggered to try to address the problem, but which are most effective, and for which groups and in which contexts? There is an opportunity to address some of these questions if the initiatives are envisaged as a series of natural policy experiments taking place over the past two decades. There is the potential for valuable international policy learning, but first we need to understand more about what has actually been tried in each country.

Aims and methods

Cross-national comparisons provide a way of addressing this evidence gap. This project aimed to compare employment outcomes in countries that vary in their policies for people with chronic illnesses and disabilities. The methods included:

- A. Policy review and analysis to understand the range and types of policies and interventions that have been implemented in each country that may influence employment chances for chronically ill and disabled people, and where the main emphasis lies.
- B. Observational studies of employment-related trends over time for chronically ill people from different socio-economic groups during which selected policies have been introduced, changed or taken away.
- C. Synthesis of evidence from the selected countries on evaluation studies of the impact of the identified policies and interventions.

Countries involved in the study are Canada, Denmark, Norway, Sweden and UK.

Main Findings

A. Policy analysis and typology of interventions

The efforts in the five countries in this study to help chronically ill and disabled people into work constitute a series of natural policy experiments. The experiments operate at two levels. First there are the wider labour market policies at the macro-level that cover the whole of the population but which may have differential implications and impacts for chronically ill and disabled groups within society. These policies need to be monitored for differential impact. Second, all five countries have been experimenting with specific interventions designed to promote employment for chronically ill and disabled people.

At the macro-level, the contrasts in policy on flexibility and de-regulation of the labour market are stark and may potentially have differential impacts for chronically ill and disabled people. The UK has developed one of the most de-regulated labour markets in Europe, while Sweden has maintained one of the most highly regulated at the other end of the spectrum. Canada is nearer UK and Norway nearer Sweden on this spectrum. Denmark, however, has developed a unique model of “flexicurity”, which is a term invented to describe a flexible labour market with liberal hiring-and-firing procedures combined with relatively generous social security and active labour market policies. There are two opposing hypotheses about whether a flexible labour market is good or bad news for people in ill-health.

Another significant contrast at the macro-level is the degree of economic security for individuals outside the labour market (what is inelegantly known as the degree of “de-commodification”). Sweden, Norway and Denmark have a high level of generosity and entitlement to welfare benefits when not working, while the UK and Canada have much lower levels. All five countries, however, have been making adjustments to their policy on this over the past two decades, which offer further scope for within-country comparison over time. There are contrasting hypotheses about how the level of welfare benefits may act as incentives or disincentives to work for people who are chronically ill or disabled, which amount to different fundamental principles of how welfare systems should be structured. We examined some of these hypotheses (see **Box** and Section B below) when analysing trends in employment for different groups in the population in the five countries.

In terms of focused interventions, or active labour market policies, governments have followed two principal policy orientations. One has a focus on the employment environment, attempting to make it more “disability-friendly”. The second is a focus on the disabled people themselves – attempting to protect their standard of living whilst not working or to develop their skills, education etc. in order to increase their employability. Over the past two decades, all five countries have mobilised both responses in an effort to promote return-to-work for chronically ill and disabled people, but they have differed in the types of strategies employed and how these were combined and prioritised. We refined a typology of these different strategies, based on their underpinning theory of change and used it to assess the main thrust of each country’s efforts and to help interpret the evidence from evaluations of such interventions. It is clear that the Nordic countries have put more effort and resources into active labour market policies over the years and have tended to put more emphasis on the interventions to improve the employment environment, compared with the UK and

Canada. Conversely, the UK in particular, has gone strongly for the individual-focused interventions and has stepped up intensity of efforts substantially in the past five years. There is much to be learnt from the inventiveness and innovation in each country – there is no shortage of ideas for initiatives to tackle the perceived problems.

B. How have chronically ill and disabled people fared in the labour markets in different countries?

- In 2005, employment rates for *healthy* men were broadly comparable between countries and ranged from 86.4% in Canada to 93.0% in Norway and Sweden. Although there was greater cross-country variation in the employment rates of healthy women, the pattern remained similar, with the lowest employment rates observed in Canada (74.7%) and the highest in Norway and Sweden (88.6% and 88.4% respectively).
- Cross-country variations in employment rates were more marked among *chronically ill* men and women, however. The UK had the lowest employment rates for both men and women. Nearly 59% of British men with limiting longstanding illness were employed, compared with rates of over 70% for their Danish and Norwegian counterparts. Half of British women with limiting longstanding illness were employed, compared with rates of over 64% for their Norwegian and Swedish counterparts. The highest employment rates for individuals with limiting longstanding illness were observed in Denmark and Norway for men (70.5% and 70.6% respectively) and Sweden and Norway for women (64.9% and 64.3%).
- Differentials between the employment rates of healthy and chronically ill individuals were largest in the UK, where the employment rates of men and women with limiting illness were respectively 36.5% and 37.4% lower than those of their healthy counterparts.
- From regression analysis on a pooled dataset of all five countries, low education aggravates the employment consequences of limiting illness in all countries, but this interaction is particularly pronounced in UK. The same is true for women in Denmark and men in Norway.
- Considering the trends over the past twenty years, there was a marked deterioration in the employment chances of people with limiting illness who had low education, even during most recent periods of economic recovery.

How could the findings be interpreted in the light of the opposing hypotheses in the Box about the effects of macro-level policies?

- Neither the positive nor the negative hypothesis about the effect of an unregulated/flexible labour market hypothesis is supported.
- The results also do not support the hypothesis about a negative effect of more generous welfare benefits either.

- The active labour market policy hypothesis is partially supported. Higher employment rates among chronically ill and disabled people was observed for the countries with high spending on active labour market policies.
- The “Business cycle” theory is not supported. Denmark and Sweden have had the largest variations in unemployment but still very high employment rates among the ill.
- *Post-industrialisation effects*. This hypothesis is partially supported in that we observed growing employment polarization between healthy and ill groups which were mainly independent of short-term economic fluctuations.

Box: Hypotheses about the impact of macro-level forces on employment chances of people in ill-health

- *Unregulated/flexible labour markets* with low employment protection will leave the labour force more unprotected against macroeconomic forces, but, *conversely*, might at the same time make it easier for individuals with lower education and reduced work ability to get employment.
- *Policies with generous welfare benefits* have made it possible for workers with reduced work ability to leave the labour force without serious economic consequences.
- *Active labour market policies* including vocational rehabilitation might on the other hand draw workers more actively back into the labour force after periods of sickness, disability or unemployment, and might in particular be beneficial for less qualified groups.
- *Economic fluctuation and the business cycle hypothesis* predict increased employment-related polarization between healthy and ill people during periods of high unemployment as entry and exit processes are likely to be more health selective under such circumstances.
- *Post-industrialisation* i.e. the structural transformation from manufacturing to the service and education sectors, and the associated trend towards higher demands on labour (e.g. higher demands for flexibility, skills, credentials, performance, capacity and productivity). Under such conditions, people with less education and those suffering from poor health will be particularly vulnerable to labour market exclusion because they are less able to meet these demands and requirements. Those suffering from the double burden (low education + chronic illness) would be exposed to the highest risk.

Interpreting the adverse UK results

From the comparison of these five countries, it seems as if the problematic employment situation in UK for people with limiting illness and low education is a result of adverse long term macroeconomic conditions combined with a relatively low level of active labour market policies. The “flexibility” policy with weak employment protection is not keeping the chronically ill in the labour market. This contrasts with the results from Denmark, where flexibility is combined with a high degree of active labour market policy, and the chronically ill fare relatively better in the labour market. The interaction between education and limiting illness illustrates the fact that chronically ill and disabled individuals with low education face multiple barriers to gaining employment. Tackling the low level of education and providing opportunities for vocational rehabilitation training among these groups would help improve their labour market participation.

C. Lessons from the review of effectiveness of focussed interventions

From a search of 16 electronic databases and 111 relevant organisational websites and other grey literature sources we identified 86 studies that fitted our inclusion criteria for the review (26 from the electronic databases and 60 from the grey literature). In addition we included 14 studies from our previous review of UK interventions on the same subject, as well as the review itself. There were examples of studies on all the intervention types in our refined typology. Key conclusions include:

- There is a big gap between the large volume of interventions that we identified in our policy review and the small volume of evaluations carried out on such interventions. There is need for more and better assessment studies.
- Randomised Controlled Trials (RCTs) were rare (5 out of 86), and not many others had comparison groups (a further 15 out of 86). Qualitative studies proved invaluable for understanding what the difficulties might be with the implementation of some of the interventions.
- The majority of studies were identified from the grey literature, in particular from governmental and organisation websites in the national languages of the countries. This highlights the importance of comprehensive, multi-faceted search strategies in this field of social welfare interventions.
- Some interventions produced promising results in terms of improved employment chances. *Resting disability pension* was a notable example from Sweden, where people who had been retired on disability pension for several years were enabled to return to work.
- There is a danger of the results of evaluations being misleading due to biased selection of participants into the interventions (even if an evaluation is based on a controlled trial, the researchers rarely have influence over selection into the intervention programme itself). Some interventions selected the easier cases (cream-skimming) – by, for example, identifying people who were more work-ready, so that they could achieve positive results in terms of employment uptake. Conversely, others were focussed on the hardest cases, seen as in greatest need of the service. They may, for example, have been out of work for several years, or have mental health diagnoses, both of which reduce the chances of re-employment, thereby producing disappointing results. This emphasises the importance of always considering selection into interventions when interpreting results.
- Some interventions were taken up or offered to those for whom they were least intended, crowding out the intended target participants. It is essential to consider what the underlying objectives of an intervention are and to judge the programme against those objectives. There is a suggestion that this is what is happening with Danish *flexjobs*, which might increasingly have been assigned to those with no reduction in work ability who might otherwise have obtained a job without the scheme.
- Some evaluations may measure outcomes too soon or inappropriately. This was a potential danger with some of the evaluations of vocational rehabilitation, where the time spent on the rehabilitation programme meant that any possible uptake of employment was delayed until they finished the programme. In one of the studies, it erroneously looked as though vocational rehabilitation participants had more days sick than non-participants. That was an artefact of the scheme recording participants as on “sick leave” when undertaking the rehabilitation programme.
- Some interventions may actually be counterproductive, which highlights the necessity of evaluating all initiatives for harmful effects. The starkest example of this was in the Swedish study of different forms of rehabilitation, when being a participant of educational rehabilitation worsened chances of re-employment compared with no rehabilitation. The result was thought to be due to this particular option being a last resort, where individuals who had a bad sickness record and had been through other forms of vocational rehabilitation without success ended up before receiving disability pension. In such situations, there is

a selection effect, but the possibility was also raised of stigma being attached to educational rehabilitation that causes employers to avoid participants in it.

- Some interventions had very low uptake or population coverage, so they could not be expected to have a measurable effect when assessed at the population level. The Norwegian *Active Sick Leave* Scheme, for example, in theory has potential for improving return-to-work, but in practice had only been taken up by less than 1% of eligible people.
- The effectiveness of some interventions may have been compromised by the low level of resources to support them. Earlier experiments in the UK to offer financial incentives to employers to take on disabled workers, for example, appear to have been at too low a level to act as a realistic incentive. The Danish *flexjob* scheme, on the other hand, offered support in the region of 50-65% of the employee's salary. Employment in *flexjobs* has increased dramatically since the introduction of the scheme: from 6700 in 1999 to 40,600 in 2006 (though not without its critics, see bullet point 5 above).
- Last, but not least, very few studies investigated where there was a differential impact of the interventions for different socio-economic groups in the population. As finding ways of tackling social inequalities in health is a priority, it is essential for effectiveness studies to monitor differential impact. Some of the studies in this review that did do that found that specific interventions were less accessible to less skilled groups, who would need additional support to help them return to work.

2. Introduction

2.1 Political and public health significance

This project is concerned with the issue of working age people made workless through disability or ill-health and what can be done about it. There are several reasons why this is a serious issue that needs to be given priority in public health research.

First, recent trends indicate that the political significance of the issue is high and increasing. In the UK, incapacity benefits are paid to those who are unable to work because of ill-health or disability. The numbers on incapacity benefits trebled during the 1980s and 1990s and have since levelled out, but at a high level. The proportion of the working age population on incapacity benefits or the previous equivalents increased from around 2% in the 1970s to around 7% in 2007. By 2007, there were 2.64 million people of working age on incapacity benefits, of whom 1.5 million had been in receipt of the benefit for over five years (Black 2008). Incapacity benefits account for 25% of total social security benefit expenditure, representing about 1.5% of GDP (OECD, 2003).

All five countries in this study are facing similar challenges. Like the UK, Sweden has seen a trebling of the proportion of the population receiving sickness or activity compensation in the past 30 years. In October 2006, there were about 700,000 people in Sweden who were on long-term sick leave or activity compensation (Government Offices of Sweden, 2007). Almost 15% of the working age population was outside the labour market due to ill-health, 7.8% are on disability pensions and the cost of sick leave and disability pensions together corresponded to 3.7% of the Swedish GDP in 2002 (National Social Insurance Bureau, RFV 2002). In Norway, there is deep concern that at any point in time there are 25% of people of working age outside the labour market and the disability benefit recipiency rate is around 9%. In Denmark, long-term sickness absence has been an issue of growing political concern over the past decade, with the proportion of working age population in receipt of disability benefits standing at just under 8%. In Canada, about 4% of the working age population is in receipt of disability benefits of some kind, 13.5% report ill-health that limits their activities. There is recognition in all the countries that the ageing of their populations will exacerbate these trends: in the near future it is estimated that there will be 8 non-working persons per 10 working persons in the EU, as a result of the twin trends of the ageing of the population and the increase in the proportions leaving the labour force due to ill-health. If “work is the glue that holds society together”, then these figures are not just about a financial problem for the exchequer, but about opportunities for large sections of the population to participate fully in society as a whole and have a better quality of life.

Second, and related to the last point, the issue is intricately linked to health inequalities. Being in poor health is an important risk factor for non-employment, poverty and social exclusion, recognised as such by the World Health Organisation (WHO) (Dahlgren and Whitehead, 2007) and the European Union (Atkinson et al, 2005). In many countries, being out of work due to ill-health leads to poverty and social exclusion, which in turn leads to a further decline in health in a vicious circle (Acheson et al, 1998). The exclusion that comes from being outside the labour market relates not only to the work environment, but to exclusion from close social relationships and the opportunity to participate in society in many arenas. Further, it is increasingly recognised that the

adverse consequences of health problems are not evenly spread across the population, but rather become more severe with decreasing occupational class. This tendency has the potential to generate further inequalities in health. Reducing loss of work among people with ill-health has, therefore, become a focus of strategies to tackle health inequalities in several countries, including Norway, Sweden and the UK.

2.2. The need for, and challenge of, natural policy experiments

An important question for understanding the best policy options available is: what helps people to return to work or hinders them when they have chronic illness or disability? With the existence of a range of initiatives in different countries that have been tried, theoretically it should be possible to synthesise the evidence on effectiveness and glean useful lessons for future actions. In practice, there are major challenges to carrying out such an evidence synthesis. Very few interventions have been evaluated using experimental designs with controls, and those that have been tend to be relatively small-scale, pilot projects which lend themselves to this approach. In addition, the impact of discrete interventions is often dependent on the wider policy context (historical and current), which needs to be, but is rarely, taken into account. For many initiatives on a national scale (which would be of great interest), an experimental design is not feasible, or indeed appropriate, and any systematic review searching solely for those designs will turn up very little of use.

One solution advocated by Wanless is the exploitation of “natural policy experiments” to generate evidence from policies and practice currently being implemented (Wanless, 2004). The Global Commission on Social Determinants of Health also recently advocated the use of natural policy experiments (Marmot, 2008). These take advantage of situations that arise where variations in policy occur and effects of exposure to that policy change can be investigated. This involves, for example, studying changes over time for specific population groups in one country when policy on a specific issue has fluctuated, or studying the period before and after the introduction of a new policy in several countries. The methodology for assessing the impact of such “natural experiments” in relation to health is still being refined, but cross-country comparative analysis has a promising part to play, especially for some of the major public policies that tend to be introduced nationwide.

To address the central question of what helps chronically ill and disabled people into work, we have identified natural policy experiments in the selected countries and developed ways of synthesising a diverse range of evidence concerning them. We then refined a typology of actions to guide interpretation of what types of intervention work and for whom.

2.3. Why select these five countries?

One reason for selecting these countries is that the UK, Sweden, Denmark, Norway and Canada are all struggling with the same problem of substantial (and in some cases rising) numbers of chronically ill and disabled people out of the labour market or registered as long-term sick. The issue is a priority for national policymakers in all five countries. A second reason is that they all have advanced social welfare systems, so the policy contexts are sufficiently similar for cross-country policy learning to be relevant. Third is the existence of natural policy experiments in these countries – they have all been experimenting with different ways of tackling the problem and there should be

much to learn from the outcomes of these different initiatives for future policymaking. Last, but not least, is the possibility of methodological development in evidence synthesis and the evaluation of natural policy experiments. By studying a small number of countries in great depth, we aim to gain greater understanding of the policies and interventions that have been tried in these countries to help chronically ill and disabled people into work, against the backdrop of the wider labour market and macro-economic trends in those countries. We then attempt to integrate evidence from the wider policy context into the findings of systematic reviews of effectiveness of interventions, to advance interpretation of the natural policy experiments implemented in these countries. The fourth reason for selected these particular countries and not others that fit the above criteria such as France, Germany, and The Netherlands, is largely pragmatic. We had to limit the number of countries to be able to go into sufficient depth in each country to get to grips with the complex policy contexts and dynamics. This depth of understanding required collaborators in the selected countries who had the level of knowledge about their own country's policies and interventions over time to be able to make nuanced interpretations of developments. The partners in the five countries have this depth of understanding and also very strong collaborations with one another. They provide the project with a coherent group of study countries: two countries (UK and Canada) with - in the categories of Asping-Andersen's typology - liberal social welfare regimes; two (Sweden and Norway) that exhibit typical social democratic welfare regime characteristics and one (Denmark) that in recent years has developed its own 'Third Way' of 'flexicurity'.

3. PURPOSE OF THE STUDY

The *aim* of the proposed project was to identify and synthesise evidence on the impact of policies and interventions on employment chances of chronically ill and disabled people. This was done by comparing outcomes in countries that vary in their policies and interventions for people with chronic illnesses and disability. A particular focus was on identification of differential impact on employment and health for different socio-economic groups, as the mechanism of differential consequences is highly relevant in relation to the generation or reduction of inequalities in health. Countries involved in the study are Canada, Denmark, Norway, Sweden and UK.

The *specific objectives* are to carry out:

Policy review and analysis to understand the range and types of policies and interventions that have been implemented in each country that may influence employment chances for chronically ill and disabled people, and where the main emphasis lies.

Observational studies of employment-related trends over time for chronically ill people from different socio-economic groups during which selected policies have been introduced, changed or taken away.

Synthesis of evidence from the selected countries on evaluation studies of the impact of the identified policies and interventions.

A fourth objective was a generic capacity building objective for the Consortium as a whole. This project offered to pilot an NHS Specialist Public Health Training Scheme placement with a view to extending opportunities in other Consortium projects if successful. The outcome of this pilot is reported in section 7.3 and Appendix 1.

4. DESIGN AND METHODS

4.1. A note on concepts and terminology

This project recognises the distinct concepts of ill-health, impairment and disability. The Prime Minister's Strategy Unit report on improving the life chances of disabled people defines ill-health as the short-term or long-term consequence of disease or sickness. Impairments are long-term characteristics of an individual that affect their functioning and/or appearance. Disability is disadvantage experienced by an individual resulting from barriers to independent living or educational, employment or other opportunities that have an impact on people with impairments and or/ill-health (Prime Minister's Strategy Unit, 2005). This understanding of disability is well recognised within the research and policy community, even though there are many variations on that definition. In this report, exclusion from employment is seen as one of the ways in which ill-health or impairment is transformed into disability, and addressing this process is a central concern of this study. In particular, the research recognises the structural nature of the barriers to employment.

The measures that are available in routine surveys and datasets, however, provide only a partial representation of this concept of disability. In all the countries in this study, there are people who are officially registered as disabled within their social welfare systems, but many more in the population - who are not registered - also suffer disadvantage because of their ill-health or impairment. The closest we can get to reliable measures of the size and composition of this wider population is through health surveys. These rely on self-reported measures of long-term (chronic) illness and chronic illness that limits everyday activities. Health information systems capture further measures of morbidity and specific, clinically diagnosed conditions, but often do not pick up the social consequences of that condition. "Impairment", as opposed to its disabling consequences, is particularly difficult to capture in the datasets that are available nationally and internationally.

When referring to the various aspects of ill-health, impairment and disability in the technical sections of the report, therefore, the following terms are used. Where the term "disability" is used in connection with access to/receipt of benefits, this is made clear. In all other places, "measured disability" has been shortened to "disability" for ease of reading and refers to disability as measured in routine datasets. Longstanding ill-health is termed "chronic illness" in line with health survey conventions, and this can be either "limiting" or not, depending on whether it limits everyday activities, including the ability to work. Impairment is only used when it can be specifically identified in a dataset or policy analysis. We acknowledge, though, that some people with impairment will be counted as having a chronic illness in health surveys if they report their circumstances in that way, and some who experience disadvantage as an impact of impairment will have been included in the measured disability data.

4.2 Study design

The intention was to take advantage of natural policy experiment in five comparable countries that vary in their policies for people with chronic illnesses and disabilities in five countries. In-depth analysis for each country was planned to include the main components:

- Policy review and analysis to understand the range and types of policies and interventions that have been implemented in each country that may influence employment chances for chronically ill and disabled people, and where the main emphasis lies.
- Observational studies of employment-related trends over time for chronically ill people from different socio-economic groups during which selected policies have been introduced, changed or taken away.
- Synthesis of evidence from the selected countries on evaluation studies of the impact of the identified policies and interventions.

Evidence from all three components was then considered and interpreted by the research teams in a series of joint meetings. The in-depth nature of the studies and the necessity to understand the policy context required researchers from each of the countries to take part in the project. An international collaboration was therefore developed, coordinated by the UK team at the University of Liverpool, which has implications for funding of the research, discussed in section 7.

4.3 The policy review and analysis

Cross-country comparative policy analysis was conducted across the countries within the study. Macro-level data relating to the policy context were collected and systematically quantified (where possible) and compared and used to interpret the patterns found on the micro level as well as on the programme level in each country.

Data sources and measures: At the macro-level, two main categories of data were collected and analysed. First, for each country, information was collected and analysed on underpinning policy goals, policy trends over time and major changes in the key policy areas, related to employment for chronically ill or disabled people. These areas include disability discrimination legislation, social protection in the case of sickness, health policy on access to and coverage of rehabilitation services, labour market policy and its relationship to the overall welfare systems. Main data sources for this information were official documents from government departments and expert analyses from established policy centres. Second, data on trends in the macro-economic environment in each country have been collected, including indicators of labour market functioning such as employment and unemployment rates, economic cycles, relative poverty and social exclusion indicators. Main sources for these data were the national statistical agencies in each country and international statistical services, including those of the OECD and the EU.

4.4 Cross-country epidemiological studies

Cross-country epidemiological studies of individual-level data (micro level) were carried out. Employment-related trends over time for different socio-economic groups were analysed over periods during which selected policies have been introduced, changed or taken away.

Datasets

For Denmark, Norway, Sweden and the UK, analyses were based on data from national surveys, representative of the population from which they were drawn, and for Canada, analyses were conducted on the population Censuses. Each dataset was chosen for its detailed individual-level data over more than a decade on participation in the labour market, health status and socio-economic circumstances. In each country, analyses were based on men and women of working age, 25-59 years.

The **UK data** were drawn from the Labour Force Survey (LFS), a large-scale survey with 60,000 households taking part each quarter. The LFS is carried out under an EU directive and uses internationally agreed concepts and definitions which have stayed fairly constant in questions relating to health and economic activity. **Swedish** analyses were based on the Survey of Living Conditions (Undersökning av levnadsförhållanden, ULF), a national survey conducted annually since 1975 with an average sample of 6,000 individuals. The **Norwegian** Survey of Living Conditions (Levekårsundersøkelsen) has been conducted annually since 1996. In **Denmark**, analyses were based on the Health and Morbidity Survey for various years (Sundheds- og sygelighedsundersøgelse). The **Canadian data** were drawn from the population Censuses, specifically, responses to the Census Long Form 2B, a detailed questionnaire administered to one-fifth of all private households (a shorter questionnaire is completed by the remainder of the population).

A fuller description of the five country datasets, definition and comparability of variables is given in **Appendix 2**.

Analyses

In each dataset, individuals were defined as having limiting illness ('chronic illness') if they reported a longstanding health problem which restricted their work or daily activities. Individuals who reported a longstanding condition which *did not* restrict their work or daily activities were classified as being free from limiting illness (for brevity, referred to in this report as 'healthy').

In each dataset, educational level was grouped into three categories using the OECD ISCED-97 Classifying Educational Systems (OECD 1999): low education was defined as ISCED categories 0, 1 and 2 (pre-primary, primary and lower secondary schooling), intermediate education as ISCED categories 3 and 4 (upper secondary and post-secondary non-tertiary schooling), and high education as ISCED categories 5 and 6 (first and second stages of tertiary education).

In each country, the proportion of men and women reporting limiting illness was calculated and age-standardised to the European Standard Population. Employment rates were calculated according to the number of individuals aged 25-59 employed as a proportion of all individuals in this age group and age-standardised to the European Standard Population with 95% confidence intervals (CIs). Age-standardised employment rates for specified years were calculated for men and women aged 25-59 who i) were healthy or reported a longstanding illness which was *not* limiting, ii) reported a limiting illness.

To address question of interactions, we also carried out linear regression analyses on the pooled datasets including all five countries and tested for interactions between country and chronic illness as well as between education and chronic illness in each country. Denmark was used as a reference in the analysis of country effects since it in many

aspects occupies an intermediate position in term of labour market policies: high degree of flexibility as in UK and to a certain extent in Canada, and high degree of security as in Sweden and Norway. Excess risk due to interaction was calculated (Skrondal A: *Am J Epidemiology* 2003;158:251-58).

4. 5. Synthesis of evidence on the impact of focussed interventions

We carried out systematic reviews of effectiveness of interventions focussed on helping chronically ill or disabled people into work in the five countries. We *excluded* measures aimed at reducing short-term sickness absence, as this was seen as a separate issue from our central focus, both conceptually and strategically. We *included* measures aimed at helping people into work who were not employed and were on some form of disability-related (the common situation in UK and Canada) and measures to help people on long-term sick leave return to work (the common situation in the Nordic countries).

Search strategy and review methods

A number of searches contributed to this review. Firstly, there was a two-stage search conducted by an information scientist from the Centre for Reviews and Dissemination using terms developed with collaborating researchers from each country. This comprised:

1. an update of our previous review of ‘welfare-to-work’ programmes in the UK (Bambra *et al* 2005) date limited to between 2002 to 2007.
2. a full search without date limits of focused interventions in specified countries (Canada, Denmark, Norway and Sweden, “Scandinavia” and “Nordic countries”).

The search strategies were not limited by study design or language. A basic search strategy was designed to retrieve the following facets in combination:

Population - Disability, long term-sickness etc.

AND

Intervention – rehab interventions/programmes

AND

Outcome - Employment/unemployment (full details of strategy available on request)

The flow chart for the searches is given in **Figure 4.1**. These searches were conducted on sixteen electronic databases (see **Appendix 3** for details). An additional search of 11 electronic databases, some specifically Swedish, between their inception dates and 2007 was conducted by Swedish colleagues updating their previous review of Swedish return to work interventions. The results of this search supplemented the above searches. The updated UK search produced 1598 references, the international searches produced 1433 references and the Swedish searches produced 597 references (which included duplicates with the international search), totalling 3628 potentially relevant references.

In addition, systematic grey literature searches were conducted through 111 relevant governmental and non-governmental websites by partners in the respective countries in their national language as well as in English. This produced a further 2948 potentially relevant references. All references were then screened for retrieval, on the basis of title and abstract, relevant full papers were then retrieved. References not in English were screened by the relevant country partners and inclusion/exclusion agreed with the UK team. The bibliographies of all assessed material were hand-searched, and information on unpublished and in-progress research was requested from 30 key researchers in the field. All retrieved papers were evaluated for relevance by two reviewers in accordance

with the inclusion and exclusion criteria (see **Table 4.1**), and studies meeting these were then included in the review. Any disagreements were resolved by consultation with a third reviewer. Special attention was paid to whether the interventions had different impacts on men and women and on different socio-economic groups.

Inclusion and exclusion criteria

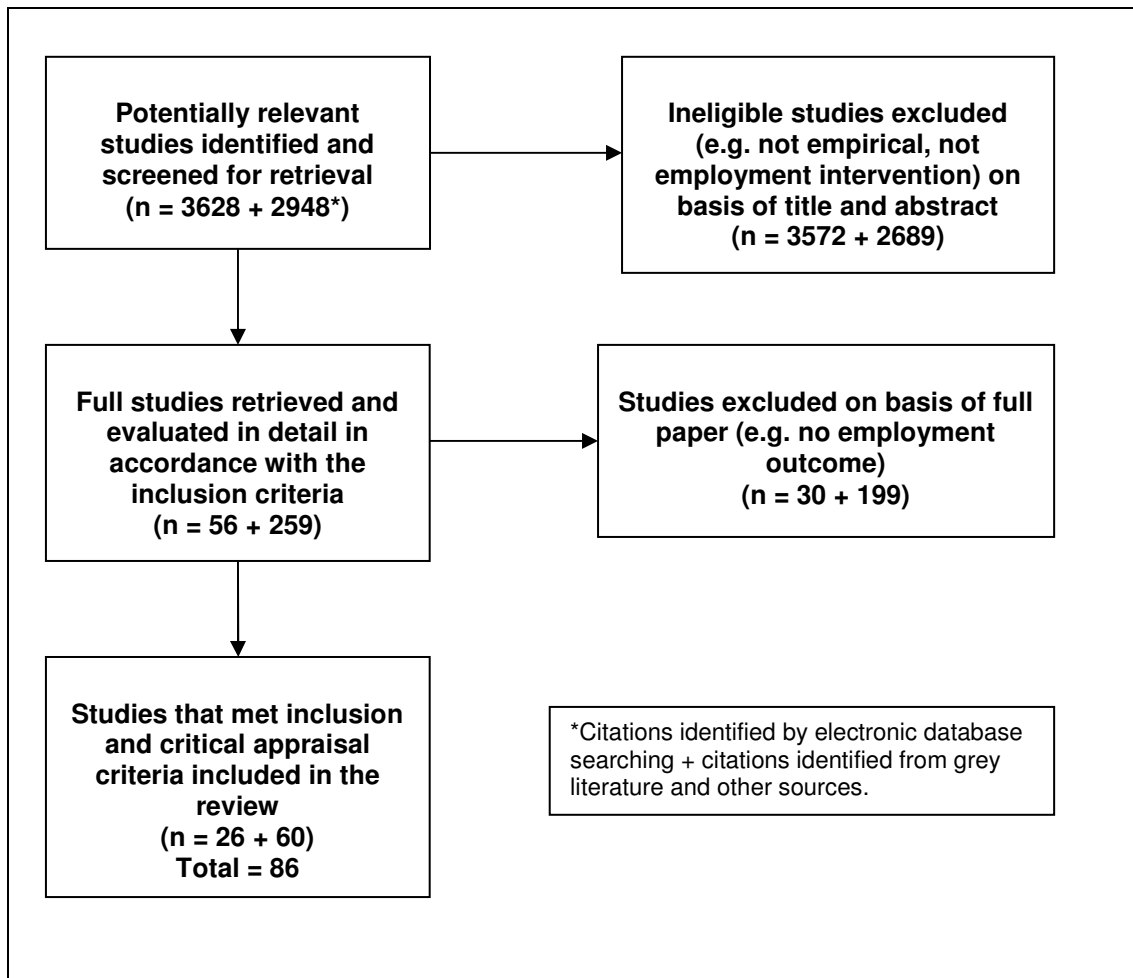
The review aimed to identify all systematic reviews, experimental and observational studies evaluating the employment effects of interventions aimed at assisting people with long-term illnesses or disabilities into the open labour market across the five countries under study (see **Table 4.1**). Qualitative studies that explored how or why an included intervention was or was not effective were also included. Studies that were not based on empirical research and/or that did not include employment in the open labour market and/or post-intervention sick leave as an outcome were excluded. Only studies reporting on major policies or interventions of national or regional coverage were included. Evaluations of small or localised interventions were excluded. After the searches had been conducted, it was agreed among the partners that only studies conducted after 1990 were included, as this was viewed as the point at which the number of people with long-term illnesses and disabilities outside the labour market began to be a serious policy concern within the five countries. The population of interest were those of working age (16-65) on long-term sick leave or long-term sick benefits. Evaluations of interventions that focused wholly or largely on sheltered employment were not included as these were rarely aimed at helping individuals into the open labour market. Evaluations of employment rights legislation, for example the Disability Discrimination Act (DDA) were also included. Studies based on single cross sectional surveys were only included where they were combined with other quantitative or qualitative methods.

Critical appraisal

Once the studies had been selected for inclusion on the criteria listed in Table 4.1, critical appraisal criteria were applied to the general design of the studies as set out in **Box 1 Appendix 4**. Separate sets of criteria were used to appraise quantitative and qualitative studies. The results of the appraisal were used for descriptive purposes only, to highlight variations in the quality of studies. There were not used to calculate a quality score as this would not be appropriate, given the diverse range and purposes of the studies. Care was taken, however, to consider the design and conduct of each study when interpreting the findings and to be properly cautious in inferring causation.

Tables of all included studies, with critical appraisals, and their full citations are given in **Appendix 4**.

Fig. 4.1: Systematic review – search and inclusion process – international 1990-2007.



No. papers by country

Country	Number
Canada	8
Denmark	6
Norway	6
Sweden	25
UK	41
Total	86

Papers by study design (some papers may report on same study or follow up)

Systematic review	1
RCT	5
Econometric	11
Ecological	3
Mixed method*	9
Case control	8
Cohort	12 (5 uncontrolled)
Longitudinal panel data	2
Cross sectional with repeat or follow up	5
Qualitative	24
Longitudinal qualitative	5
Case review	1

* includes all studies that mixed quantitative and qualitative methods

Table 4.1: Inclusion/exclusion criteria

	Included	Excluded
(i) Geographical coverage	Canada, Denmark, Norway, Sweden, the UK	All other countries
(ii) Time coverage	Post-1990	Pre-1990
(iii) Population of interest	Working age (16-65) population who are chronically ill or disabled.	Pre- or post-working age population, and working age population without a chronic illness or disability
(iv) Studies of interest	<ol style="list-style-type: none"> 1. Empirical evaluations of effectiveness of ‘welfare-to-work’ and ‘long-term sick to work’ programmes in terms of effects on employment or sick leave. 2. Qualitative studies of the views of participants and process evaluations of the implementation of the included interventions. 3. Systematic reviews of studies in 1 and 2 above 	<ol style="list-style-type: none"> 1. Evaluations of ‘welfare-to-work’ and ‘long-term sick to work’ programmes that do not include employment outcomes (e.g. studies that only evaluate health outcomes). 2. Studies that do not include empirical data or do not review empirical studies 3. Single cross sectional studies
(v) Type of policy intervention	Major ‘Welfare-to-work’ and ‘Return-to-work’ programmes and their constituent elements to improve the employment chances of chronically ill or disabled people of working age.	<ol style="list-style-type: none"> 1. Small-scale, local experiments for specific groups of chronically ill or disabled people; 2. “sheltered employment” for severely disabled people that would not constitute employment in the open or competitive labour market. 3. Major “welfare to work” programmes for people without a chronic illness or disability. 4. Major programmes to reduce short-term absence rates within the employed population.
(vi) Outcomes	<p>Effectiveness – employment chances and social inclusion</p> <p>Process – influence of contextual factors on implementation</p> <p>Organisation – features of the policy intervention that influence operation</p>	Research that does not address outcomes in terms of effectiveness, process or organisation.

5. MAIN FINDINGS

5.1. Policy context: making sense of interventions in different countries

5.1.1. Natural Policy Experiments

The efforts in the five countries in this study to help chronically ill and disabled people into work constitute a series of natural policy experiments which offer the opportunity for policy learning. The experiments operate at two levels. First there are the wider labour market policies that cover the whole of the population but which may have differential implications and impacts for chronically ill and disabled groups within society. These policies need to be monitored for differential impact. Second, all five countries have been experimenting with specific interventions designed to promote employment for chronically ill and disabled people. The contrasting approaches provide fertile ground for assessing what works (or doesn't work) and for whom in addressing this pressing issue.

Contrasting macro-level policies

The broader, population-wide labour market policies operating in the five countries provide striking contrasts in approaches and alternative hypotheses for how they might influence the employment chances of chronically ill or disabled people:

- a) Experiments in flexibility of the labour market.

There have been shifts in policy on flexibility and de-regulation of the labour market in all five countries. Starting with major shifts in the 1980s, the UK has developed one of the most de-regulated labour markets in Europe, while Sweden has maintained one of the most highly regulated at the other end of the spectrum. Canada is nearer UK and Norway nearer Sweden on this spectrum. Denmark, however, has developed a unique model of “flexicurity”, which has attracted a great deal of attention in the OECD. “Flexicurity” is a term invented to describe a flexible labour market with liberal hiring-and-firing procedures combined with relatively high social security and active labour market policies. The Danish labour market is as flexible as the British, while at the same time offering employees the same level of security as the Swedish. Both Denmark and Sweden are characterised by a shift from job security to employment security: rather than protecting particular jobs, the transition from one job to another is supported by training provision and high benefits while in transition.

There is debate about what impact the different labour market conditions would have on the employment chances of chronically ill and disabled people. On the one hand, there is the argument that a more flexible, deregulated labour market would result in better employment opportunities for unskilled workers and those with chronic illness. This is because deregulation of the labour market may increase the possibilities to create new jobs - employers would be freer to create more part-time posts and others with flexible working hours that might be more suited to disabled people, and/or at lower wages. In addition, instead of “insiders” being locked into jobs, there would be greater mobility of the workforce, leading to a freeing up of posts for “outsiders” who have traditionally been on the margins of the labour market, such as those with health problems. On the other hand, it is argued that a more regulated labour market with high employment security may offer greater protection and opportunities for chronically ill and disabled

people who would otherwise be in a weak position and be the first to be fired in a downturn. Arrangements that increase workers' sense of security in the labour market might make them less resistant to change.

b) Contrasts in dependence on the market/de-commodification:

The five countries exhibit great contrasts in what Esping-Andersen has termed “de-commodification”, which “occurs when a service is rendered as a matter of right, and when a person can maintain a livelihood without reliance on the market” (Esping-Andersen, 1990, pp21-22). In the context of this project, what is particularly relevant is the degree to which a person can maintain an adequate standard of living when not working. This is one of the dimensions on which Esping-Andersen classifies welfare regimes and on this dimension we have Sweden, Norway and Denmark with a high degree of de-commodification and UK and Canada with a much lower degree. This is reflected in the level and entitlement to welfare benefits when not working as seen in **Table 5.2**. Thus, even within the Nordic group of countries, there are differences in the degree of de-commodification that provide grounds for comparison.

There are contrasting hypotheses about incentives and disincentives to work, which amount to different fundamental principles of how welfare systems should be structured. If the benefit levels for chronically ill or disabled people are such that a person can earn similar amounts or more on welfare benefits than from wages for work, then this will act as a disincentive to working. On the other hand, if the benefit levels are too low to maintain a decent standard of living, then people who are too sick to work will have to take jobs to survive and in so doing may damage their health still further. As public spending increases and the number of people on long-term sickness benefits has increased, all five countries have been experimenting with making adjustments to the welfare benefits that sick and disabled people can obtain: making eligibility criteria tighter, making benefit levels less generous. The countries are, however, starting from very different baselines and offer opportunities for comparison.

Examples of focused interventions

All five countries have shown inventiveness and innovation in devising special schemes to help more chronically ill and disabled people into work. Examples include:

- i) *Active sick leave* in Norway. *Active Sick Leave* has been offered by the national insurance administration since 1993 to people on long-term sick leave to help them make a rapid return to work with modified duties. The amount and type of work can be adjusted to suit the particular needs of the employee, while the insurance office pays 100% of normal wages. This enables the employer to hire a full-time replacement in addition to the employee on *Active Sick Leave* (Scheel *et al* 2002: 561). *Active sick leave* was aimed at reducing the possibility of the sick person losing touch with work through maintaining some contact with work and the workplace. In 2004, stricter requirements were introduced, which meant that after eight weeks sick leave the employee is required to comply with activity demands, the employer must assess how the workplace can be accommodated and the doctor must give a thorough reassessment of the patient's functional capabilities rather than limitations (Dahl 2007, Gagnat 2004). Sweden has had a variation on this scheme - “part-time sick leave” - since the mid-1990s.

By 2003, 35% of women on any sick leave and 28% of men were on this form of “part-time sick leave”, most commonly with a 50% reduction in work time.

- ii) *Flexjobs* in Denmark. The *flexjob* scheme has been in operation in Denmark since 1998 and offers a permanent wage subsidy to employers of 50% to 65% of salary for the employment of eligible disabled people. Under the scheme, disabled employees can have reduced working hours, adapted working conditions, and/or restricted job demands. The subsidy to employers is graduated according to the reduction of working capacity, but unlike other subsidy programmes it is unlimited in duration, as long as the worker retains the *flexjob*. To be eligible, employees must have a permanent reduction in work ability and have exhausted all other means of obtaining non-subsidised work (Datta Gupta & Larsen 2008). Employment in *flexjobs* has increased dramatically since the introduction of the scheme: from 6700 in 1999 to 40,600 in 2006.
- iii) In the UK, intensive personal support in applying job-search and application through “Pathways” scheme. People with a disability or chronic illness have access to both general employment services provided to all unemployed people, or to a number of more specialised services, such as the *New Deal for Disabled People* and *Pathways to Work*. Both of these programmes involve personal advisors, who offer employment advice and support and assist clients in accessing other services and programmes.
- iv) Canada is an interesting test bed of natural policy experiments in itself – given the great diversity of policy in different provinces. In Canada there has been an increasing interest in an approach that focuses on early intervention to address the causes of disability alongside workplace modification and vocational rehabilitation. This has largely been in the context of the return-to-work programs of Workers Compensation Boards (SWCB 2007). One example is the *PREVICAP* program in Quebec, which targets at people off work with back pain. The program involves two main steps: the early identification of the precise cause of disability (not disease) for each worker followed by a progressive return to work that combines rehabilitation with workplace modification. The program is delivered by within the workplace a multidisciplinary team, including the individual’s own physician, an occupational therapist, the employer and caseworker from the Quebec Workers Compensation Board (Loisel *et al.* 2005).
- v) Sweden has introduced a multitude of interventions since the mid 1990s to increase the rate of return to work for people on long-term sick leave. These have included enabling people to part-time sickness absence and initiatives to co-ordinate the rehabilitation efforts of public authorities. The recent change in legislation (Government Offices of Sweden, 2008) represents a further move in that direction.

5.1.2. Typology of policy responses

Conceptually, these examples fall into different types of response, based on their underlying aims and rationale. Governments have followed two principal policy orientations. One has a focus on the employment environment, attempting to make it more “disability-friendly”. The second is a focus on the disabled people themselves – attempting to protect their standard of living whilst not working or to develop their skills, education etc. in order to increase their employability. Over the past two decades, all five countries have mobilised both responses in an effort to move chronically ill and disabled people into the labour market, but they have differed in the types of strategies employed and how these were combined and prioritised. We refined a typology of these different strategies, based on their underpinning “theory of change”, sometimes termed “programme logic”, as outlined in **Table 5.1** and below. The programme logic is the explicit or implicit reasoning about how the intervention will operate to bring about the desired change in the perceived problem (Whitehead, 2007).

Approach 1: Interventions focused on the employment environment

These strategies are aimed at stimulating job opportunities and removing barriers in the labour market and the work environment, for example through employment/job creation, regulating and offering incentives to employers, regulating physical accessibility in and to the work environment, providing more flexible work patterns and so on. The underlying programme logic here is that the removal of barriers to employment that exist in the labour market and working environment will result in increased employment opportunities for people with disabilities.

A. Legislation against disability discrimination

One factor said to contribute to the poorer employment chances of disabled people is that employers discriminate against them when recruiting staff and when deciding on redundancies. Anti-discrimination legislation is one strategy that aims to tackle this barrier to employment. Canada, Sweden and the UK have all enacted national anti-discrimination legislation, specifically outlawing discrimination against disabled people in relation to employment. Until recently, Denmark represented a complete contrast in that, not only was there an absence of specific legislation governing rights for disabled people in Denmark, but there was debate about whether such legislation was desirable or would run counter to other welfare state equity principles.

B. Improving physical accessibility of workplaces

Accessibility strategies are designed to facilitate the take up of employment and improve job retention by reducing employment and workplace barriers which disabled and chronically ill people may face. These can include legislation or regulations to adapt the work environment, through adaptations to buildings or workplace reorganisation, and financial incentives or other support to enable employers to carry out these adjustments. Accessibility strategies have been employed across all five countries, although there are clear differences in the extent to which accessibility is viewed as a physical or specialised equipment issue and where it is viewed as a matter of adapting the wider organisation of the work environment.

Table 5.1: Perceived problems and underlying theories of change of interventions

focus	perceived problem	Programme logic	Examples of interventions
work environment	A. Employers discriminate against disabled/chronically ill in recruitment and retention of staff	Use legislation either to outlaw discrimination in recruitment and employment or to set employment quotas	Human Rights Act/Employment Equity Act 1996 (Can), Act on Prohibition of Discrimination in the labour market 2004 (Den), Working Environment Act 1977/2005 (Nor), Prohibition of Discrimination in Working Life of People with Disability Act 1999 (Swe), Disability Discrimination Act 1995 (UK)
	B. Employment and workplace inaccessibility creates significant barriers to employment for disabled/chronically ill	Legislate and/or provide support to improve employment and workplace accessibility	Duties in various legislative acts (Can, Den), Provisions in Working Environment Act 1977 (Nor), Working Life Fund/duties in Work Environment Act 1977 (Swe), <i>Access to Work</i> scheme (UK)
	C. Few appropriate employment opportunities available for the disabled/chronically ill or employers perceive disabled/chronically ill workers to be less productive	Increase employ opportunities through job creation or financial incentives to employers to employ disabled and chronically ill	Opportunities Fund (Can), <i>Icebreaker</i> , <i>Flexjob</i> (Den), <i>Job Introduction Scheme</i> , <i>Work Trial</i> (UK)
	D. Loss of contact with work culture leads to sick-listed individuals moving into long-term sick/economically inactive category. Poor coordination of services hinders the process.	Require employers and service providers to make provision for planned return to work and cooperation among all actors involved	<i>Active Sick Leave</i> (Nor). <i>Finsam</i> , <i>Socsam</i> , <i>Frisam</i> (Swe),
Individual	E. Welfare system creates disincentives to moving into employment	Increase motivation to gain employment through provision of financial incentives to disabled people or reducing generosity of benefits	Tax credits (Can, UK) <i>Job Grant</i> , <i>Return to Work Credit</i> , <i>Job Preparation Premium</i> ; <i>Permitted Work Rules</i> (UK); Resting Disability Pension (Swe)
	F. Time outside the labour market means loss of skills in locating and obtaining appropriate work	Provide individualised vocational advice and job search assistance	<i>Canada Pension Plan Disability Vocational Rehabilitation Program</i> (Can), <i>New Deal for Disabled People</i> , <i>Pathways to Work</i> (UK)
	G. Individuals lack appropriate skills, education or training for available work	Improve skill , education and training to increase “employability”	<i>Labour Market Agreement for Persons with Disabilities</i> (Can), Employers’ duty to provide (Den), <i>Residential Training</i> (UK)
	H. Individual’s health condition creating limitations on ability to perform job	Provide medical rehabilitation and/or health management advice to reduce impairment	Medical/vocational rehabilitation (Can, Den, Nor, Sweden), <i>Dagmar</i> (Swe), <i>Condition Management Programme</i> (UK)

C. Financial incentives to employers to employ disabled workers

There is some evidence that employers have the perception that it is more costly to employ a disabled worker, or that their disability will render them less productive (e.g. Simm *et al* 2007). One strategy to overcome these perceptions has been to offer employers financial incentives to employ disabled workers, usually on a trial basis, for example, by offering wage subsidies to cover the initial costs of employment. This allows time for employers to assess the suitability of the applicant at no cost to their firm and is designed to break down barriers of uncertainty about workplace abilities.

D. Enhancing employers' and employees' responsibilities in return-to-work planning

This strategy focuses on early intervention to actively manage return to work plans for sick-listed individuals. It requires employees and employers to actively engage in helping these people back into work. The purpose of this is to reduce the numbers of people who move from short-term into long-term sickness and subsequent detachment from the labour market.

Approach 2: Interventions focused on strengthening individuals

These strategies focus on improving the 'employability' of chronically ill and disabled people themselves, through education, training, vocational rehabilitation or medical interventions which aim to increase individuals' capabilities and motivation to return to work. These strategies are underpinned by the notion of the problem being located within the individual, rather than the environment. They are therefore focused on strengthening the individual's knowledge, skills or capabilities to help them move into work.

E. Welfare benefit experiments with sticks and carrots

Since the early 1990s, irrespective of the generosity of their welfare benefit schemes, all the countries in this study have increasingly restricted both the level of and eligibility to their welfare benefits for disabled people. Justifications for these financial penalties or "sticks" include a) to limit escalating costs of welfare provision and b) to act as a disincentive to "welfare dependency". Indeed, one of the justifications for having low, flat-rate benefit levels with tight eligibility criteria in countries such as Canada and the UK in the first place, is the notion that if the standard of living achievable through benefits is too close to that achievable through paid work, then people who can work will not want to.

Policy makers have also experimented with several types of "carrot", aimed at providing additional income for those making the transition from welfare benefits to a job, to make up for potential, or perceived fears of, loss of income. These range from working tax credits in the UK and Canada to *Resting Disability Pension* in Sweden.

F. Individual support and advice in locating and obtaining work

All five countries have adopted strategies aimed at helping people move into employment by providing general support in finding work. These include efforts to enhance job search skills, match individuals to jobs, arrange access to training and education schemes, offer information about in-work benefits, and providing other forms of vocational advice and support, such as return to work planning, often on an individualised, case management basis. The increased use of case management

approaches has often entailed the reorganisation of those agencies responsible for providing these services, e.g. the merger of those parts of the social welfare and employment services responsible into a single agency. Another aspect of this reorganisation of services in some countries is the subcontracting of service provision to the private or voluntary sectors. The countries differ, however, in the degree to which they target disabled people or provide a universal system that does not distinguish by disability status.

G. Education, training and work placements for disabled people

This type of strategy recognises that disabled people will be at a disadvantage in the labour market if they do not have the required educational level or vocational skills, or if they need re-training for a job that is more suitable for their changed situation. Education, training and work placement schemes have been introduced with the aim of increasing employment opportunities by boosting skills and training.

H. Medical rehabilitation and the preventive approach

A further strategy for getting chronically ill and disabled people back into work is to attend to their particular health problem: to improve the condition or prevent a decline. Medical rehabilitation to improve physical fitness and mobility, for example, may widen the range of jobs and work environments that disabled people can participate in. Preventive initiatives, to halt further declines in health could be hypothesised to improve chances of keeping a job or of earlier return to work. The Nordic countries have taken the lead in experimenting with such strategies, and the UK is also beginning to take more interest in this approach.

5.1.3. Conceptual framework of policy entry points

The macro-policies and focused interventions may have different entry points along the pathway from a person's illness to their entry into work, as depicted in **Figure 5.1**.

The central pathway in **Figure 5.1** depicts an individual's progress from illness to employment or non-employment. An illness may lead to a long-term impairment in mobility, physical or mental capacity for an individual. The impairment may or may not affect the ability a person has to perform job in the labour market – defined as “work ability”. Work ability is an interaction between the individual's impairment and the demands of work, shown in the intervening arrow.

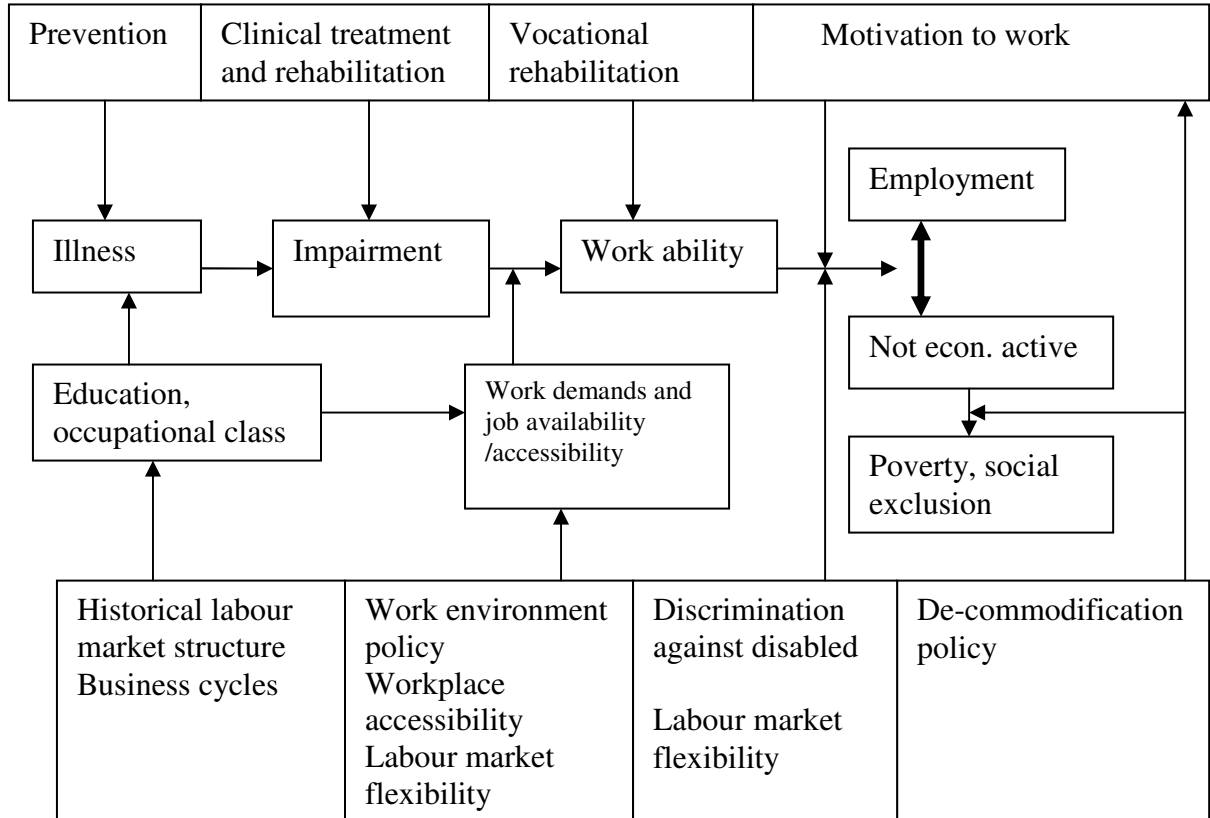
The impact of the interaction on work ability may vary depending on social position. Manual workers, for example, often have jobs that are more physically demanding (or with their lower education, these jobs may be the only ones available to them). This means that for a given level of physical impairment, the demands of the job will reduce their work ability more than a professional worker with a less physically demanding job.

Whether a person moves on with altered work ability into employment or not is influenced by many individual and environmental factors, including whether they face disability discrimination; whether the workplace is accessible and the work organisation is accommodating to their condition; whether there is motivation to work with a chronic illness; whether an adequate standard of living can be maintained without working;

whether there are jobs available to go to and the level of unemployment in the population generally.

Figure 5.1. Conceptual framework of policy entry points in pathways to work

Individual level entry points



Macro level entry points

There are policy entry points at every step along the along the pathway from illness to employment. At the individual level there are entry points from clinical treatment and rehabilitation to reduce impairment, to vocational rehabilitation to improve work ability, to financial and other incentives to improve motivation and self-confidence to take up a job. At the macro/environmental level, there are workplace accessibility and environmental policy to influence work ability; anti-discrimination legislation, labour market regulation/flexibility, job creation to open up employment opportunities for disabled people, and welfare benefit policy (de-commodification) to influence ability to maintain an adequate standard of living with or without work.

In this study, we employed this conceptual framework, coupled with the typology of focused interventions, to learn more about the impact of both macro-policy and focused interventions on helping chronically ill and disabled people into work.

5.2. Some key findings from cross-country epidemiological analyses

5.2.1. How do chronically ill and disabled people fare under different labour market policy contexts?

In many high-income countries there are increasing numbers of chronically ill and disabled people outside of the labour market and in receipt of long-term welfare benefits. Recent European surveys, however, have shown large cross-country disparities in employment rates among disabled people, and even large socioeconomic inequalities within countries (Applica *et al* 2007; Blekesaune 2007). The reasons for such disparities are potentially a net result of five opposing forces:

- ***Unregulated/flexible labour markets*** with low employment protection will leave the labour force more unprotected against macroeconomic forces, but, *conversely*, might at the same time make it easier for individuals with lower education and reduced work ability to get employment.
- ***Policies with high levels of de-commodification***, with good coverage and income replacement rates have made it possible for workers with reduced work ability to leave the labour force without serious economic consequences.
- ***Active labour market policies*** including vocational rehabilitation might on the other hand draw workers more actively back into the labour force after periods of sickness, disability or unemployment, and might in particular be beneficial for less qualified groups.
- ***Economic fluctuation and the business cycle hypothesis*** would predict increased employment-related polarization between healthy and ill people during periods of high unemployment as entry and exit processes are likely to be more health selective under such circumstances. Effects on employment might be more permanent as some limiting ill persons might end up on early retirement and similar schemes.
- ***Post-industrialisation*** i.e. the structural transformation from manufacturing to the service and education sectors, and associated trend towards higher demands on labour (e.g. higher demands for flexibility, skills, credentials, performance, capacity and productivity). Under such conditions, people with less education and those suffering from poor health will be particularly vulnerable to labour market exclusion because they are less able to meet these demands and requirements. Those suffering from the double burden (low education + chronic illness) to be exposed to the highest risk.

Different countries represent different combinations of these five forces (see **Table 5.2**). Sweden, the UK and Denmark have experienced large decline in heavy industry employment as well as large variations in unemployment over the last two decades. Canada, Denmark and the UK have the weakest employment protection, the three Nordic countries have stronger decommodifying social policies, and Denmark and Sweden in particular, have higher spending on active labour market policy.

Table 5.2. Macroeconomic conditions and labour market policies in five OECD-countries. Sources: OECD-data and Hou et al. 2006.

	Canada	Denmark	Norway	Sweden	UK
Reduction 1990-2005 in proportion (%) employed in industry of all employed	-3.1	-15.0	-11.8	-22.8	-15.6
Range of unemployment rates 1990-2005	6.8-11.4	4.8-10.4	3.2-6.6	1.7-8.2	4.8-10.4
*Employment protection legislation index 2003	1.13	1.83	2.62	2.62	1.10
Decommodification index (incl. unemployment insurance and sick pay)	17.8	24.4	22.7	25.1	15.9
Active labour market policy (spending in % of GDP 2004)	0.36	1.86	0.78	1.22	0.46

* The OECD's Employment Protection Legislation Index measures the strictness of Employment Protection Legislation. The overall summary index has three main components related to the protection of regular workers against (individual) dismissal, specific requirements for collective dismissals and regulation of temporary forms of employment. A higher score indicates stricter protection (Chapter 2 of OECD *Employment Outlook 2004* (<http://www.oecd.org/dataoecd/8/4/34846856.pdf>)).

There is increasing evidence that the ability of chronically ill individuals to work and remain in employment is dependent on their socio-economic position. The employment consequences of chronic illness are more severe for people in disadvantaged socio-economic groups and social inequalities in the ability to remain in employment have been observed for limiting long term illness (Burström et al, 2000 and 2003; Lindholm 2002) heart disease (Brezinka and Kittel 1995), musculoskeletal disorders (Holland *et al* 2006), epilepsy (Holland et al 2009) and mental illness (Meltzer *et al* 1995). Social inequalities in the employment consequences of chronic illness are of concern, not least because people who are unemployed or economically inactive might be less likely to recover from a limiting illness than people in employment, putting disadvantaged groups at risk of entering a vicious circle of further ill-health and socio-economic disadvantage.

This section reports highlights of the results from a cross-country study of gender and educational inequalities in the employment rates of men and women with limiting longstanding illness in Canada, Denmark, Norway, Sweden and the UK, asking the questions:

- Are there differences across countries in the employment differentials between healthy and chronically ill or disabled people?
- Does gender and education modify the association between illness and employment?
- Do countries differ in terms of how gender and education exerts this modifying effect?
- How have the employment chances and socioeconomic differentials changed over time with the macroeconomic trends in each country

- What policy insights do these findings provide for understanding the impact of the listed macro-economic and policy forces in the different countries?

Some results from the epidemiological analyses

Current patterns

In each country a significantly greater proportion of women than men reported limiting illness. The highest levels of limiting illness were reported in the Nordic countries and the lowest in Canada. The proportion of men and women with limiting illness in each country increased with decreasing level of education (**Figures 5.2 and 5.3**). In each country there were significantly greater proportions of women, than men, with limiting illness in the highest educational group, and in Sweden this was also observed in the lowest educational group. Educational gradients in employment rates for women with limiting illness were particularly prominent in Denmark and Sweden. This may partly be due to the higher overall rate of employment of women with limiting longstanding illness in Sweden and Denmark. Among men with limiting illness educational gradients in employment were smallest in Canada but of a similar magnitude elsewhere.

Employment rates for healthy men were broadly comparable between countries and ranged from 86.4% in Canada to just over 93% in Norway and Sweden (**Table 5.3**). Although there was greater cross-country variation in the employment rates of healthy women, the pattern remained similar, with the lowest employment rates observed in Canada (74.7%) and the highest in Norway and Sweden (88.6% and 88.4% respectively). Cross-country variations in employment rates were more marked among chronically ill men and women, however. The UK had the lowest rates of employment for both men and women. Nearly 59% of British men with limiting longstanding illness were employed, compared with rates of over 70% for their Danish and Norwegian counterparts. Half of British women with limiting longstanding illness were employed, compared with rates of over 64% for their Norwegian and Swedish counterparts. Differentials between the employment rates of healthy and chronically ill individuals were also largest in the UK, where the employment rates of men and women with limiting illness were respectively 36.5% and 37.4% lower than those of their healthy counterparts.

In **Table 5.4** we have shown results from the regression analysis of the pooled dataset. The effect of limiting illness for women is equally strong for all five countries, but for men the effect is weaker in Norway (0.05). The interaction effects between country and limiting longstanding illness is strongest for the UK for both men and women (0.13 and 0.03 respectively). It can further be seen from **Table 5.4** that the effect of education on overall employment is small, but still higher in Canada and UK compared to Denmark and Sweden. Low education aggravates the employment consequences of limiting illness in all countries, but this interaction is particularly pronounced in UK (0.23 and 0.21 for men and women). The same is true for women in Denmark (0.23) and men in Norway (0.20).

Trends over periods of economic fluctuation and the business cycle

Tables 5.5 to 5.9 present country trends in employment rates for men and women with and without limiting illness spanning periods of between ten and twenty years. During this period, all the countries experienced at least one cycle of economic recession and recovery, the UK experienced two. There are some unexpected results, with a marked

deterioration in the employment chances of people with both limiting illness and low education even over the early years of the 21st century, when the countries were experiencing economic recovery. The starkest example of this trend was observed in UK (**Table 5.5**). Note: for the analysis in this table, we used UK definition 2 of limiting longstanding illness (see **Appendix 2, Table A2.1** for definitions), which is restricted to limitations of kind of work a person might do. This allowed us to construct a consistent series for the health variable from the LFS over more than 20 years from 1984 to 2006. The UK experienced a recession in the 1980s, in which unemployment peaked in 1985 (covered by the first period in the table) and one in the early 1990s in which unemployment peaked in 1992 (covered by the third period in the table).

Among healthy British men, for both low and high education groups, there were only slight fluctuations in employment rates, which followed the macro-economic fluctuations: increasing in the late 1980s as the country came out of recession, falling back slightly during the early 1990s recession, before slowing improving from the late 1990s onwards, as the economy picked up. By 2004-06, the differential between healthy men from high and low education groups had reduced from a 13% difference in 1984-86 to a 7% difference, due to a greater increase in employment among the low education healthy men than among their high education counterparts from the late 1990s onwards.

Among healthy British women, unlike their male counterparts, there was no corresponding dip in employment during the early 1990s recession. The trend for both high and low education groups of health women showed a marked increase in employment coming out of recession in the late 1980s, followed by a more gradual rise in employment that did not falter in the early 1990s recession. Healthy women from the high education group, however, fared better than their low education counterparts in that the rise in employment was continuous throughout the 1990s before levelling off from 2000 onwards, whereas for the women from the low education group the rise in employment was slight after the surge in the late 1980s. This is reflected in the relative differential in employment between low and high education women, which increased continuously from 23.9% in the mid 1980s to 28.5% in 2004-06.

The experiences of men and women with limiting longstanding illness were very different from those of the healthy groups. *British men with limiting illness*, both high and low education groups, showed a slight rise in employment in the late 1980s and a substantial fall during the early 1990s recession (much more severe than their healthy counterparts), but then the pattern diverged from that of healthy men. The employment rate for men with limiting illness declined further in the mid-1990s, even as the country came out of recession, and stayed at the lower level until 2000-03, when some improvement could be seen for the high education group. By 2004-06, however, the high education group had still not recovered to the employment level achieved in the 1980s. For men with low education and limiting illness, there was no real sign of an upturn in their employment by 2004-06, and the relative differential between low and high education groups increased continuously from 1987-90, when it was 46% to the latest period when it stood at 58.7%.

For British women with limiting illness, there has been a striking difference in the experiences of women with low education compared with those with high education. The low education group of women saw their employment rise slightly in the late

1980s, decline in the early 1990s recession, but then continue to decline throughout the 1990s and 2000s economic upturns. By 2004-06, their already modest employment rate had fallen to 18.1%. In stark contrast, women with limiting illness in the high education group experienced a continual rise in employment throughout the twenty-year period (as did healthy women from both education groups), culminating in an employment rate of 66.1% in 2004-06. These divergent trends resulted in a marked widening of the inequalities in employment between high and low education group with limiting illness: from a relative differential of 50.8% at its narrowest point in the late 1980s, to 72.6% in 2004-06.

In Sweden, table 5.6, where there was a recession in the early 1990s, corresponding to period 1991-93 in the table, the effect of the recession can be seen on all groups – healthy as well as limiting illness groups, women as well as men, high as well as low education – in terms of substantial drops in employment rates from the period 1988-90 to the period 1991-93. (This contrasts with the UK, where healthy women and high education women with limiting illness did not show a drop in employment with the early 1990s recession). No group really recovers its pre-1990 level of employment, but the healthy men and women in the high education groups appear to stabilise at only a slightly lower level for the rest of the 1990s and up to 2005. In the 1970s an early 1980s, employment rate for healthy Swedish men from the low education group was very high – and actually slightly higher than their counterparts in the high education group. Since the recession of the early 1990s, however, rates have been higher in the high education group and the relative differential has grown to (a still modest) 3.7%. For Swedish women in the healthy category, employment rates have always been lower in the low education group, through the differential has fluctuated from 6% at its narrowest point in 1988-90 to 19.7% in 2003-05.

What is most striking about the *Swedish trends* is the drastic deterioration in employment rates for *men and women with limiting illness and low education (Table 5.6)*. For Swedish men with limiting illness, the rate for the low education groups dropped from 77.3% to 72.8% during the recession of 1991-93, then dropped markedly to 58.6% in the next period, then further to 50.8% in the late 1990s. After a rise in the early 2000s, the rate dropped again in 2003-05. The result has been a substantial widening of inequalities in employment between the low and the high education groups: increasing from 6.7% at its narrowest point in 1978-81 to 38.7% in 2003-05. Swedish women with limiting illness and low education experienced similar falls in employment throughout the 1990s, rising somewhat in 2000-02, before falling again in 2003-05. The relative differential between employment rates of women with limiting illness from high and low education groups, which narrowed throughout the 1980s, started to widen during the 1990s, and reached its widest point in 2003-05 at 48.7%.

In Norway (table 5.7), a downturn in employment was only apparent in the late 1990s among men and women with both limiting illness and low education. Further declines were experienced by women with limiting illness and low education in 2002-05 and also, in this period, for healthy men and women in the low education categories and women with limiting illness in the high education group.

In Denmark (table 5.8), the trends only go back to 1994, so we cannot see what happened during the early 1990s recession. Unemployment rates were rather high in Denmark for a long period in the 1980s and in particular in the years 1989-94, just

before the first survey used here. Over the ten year period from 1994-2005 observed here, employment rates for healthy men, both high and low education groups remained fairly stable, while the rates for healthy women showed a modest decline. The rates for people with limiting illness have shown more fluctuation. The group with the lowest employment rates, women with limiting illness and low education, experienced a marked decline in 2005, to a rate of 27.3%. The relative employment differential between this group and their high education counterparts widened to 63% in 2005.

In Canada (Table 5.9), only the rates for the first three time periods are comparable because of a change in the definition of the health variable in the 2001 census. In these three periods, there was a striking decline between 1986 and 1991 in employment among men with limiting illness and low education, with a further decline in 1996. Canadian women with limiting illness and low education exhibited a decline in 1996, to a very low level of 16.1%. Their counterparts in the high education group also experienced a decline in employment in 1996 to a low of 55.1%. The relative differentials between low and high education groups with limiting illness, both men and women, are very wide: reaching 57.7% for men and 70.7% for women in 1996 – on a par with the size of the inequalities between high and low education groups with limiting illness in the UK in 2004-06.

Insights into policy impacts

This empirical analysis found considerable international variation in the size of the employment differentials observed between chronically ill and healthy individuals. While the employment rates of healthy individuals were largely comparable in each country, we found marked cross-country variations in the employment rates of chronically ill men and women. UK stands out as different from the other countries, both in terms of the low employment rate among chronically ill, and in terms of a high employment differential between healthy and ill. UK is also the country where low education aggravates the employment effect of illness significantly more than in other countries. This is true for both men and women.

We found greater variation in the employment rates of women than among men. The higher employment rates among healthy women in Nordic countries may in part be due to access to affordable day care.

5.2.2. How could the empirical results be interpreted in the light of the opposing forces hypotheses?

i. The positive effect of an unregulated/flexible labour market hypothesis is not supported. The countries with the most unregulated labour market, UK and Canada do not have the best employment rates among the population groups with less value on the market. Likewise, *the negative effect of a flexible labour market hypothesis* (easy in and – in particular - out of employment) is not supported. It would only have been supported if not only the UK, but also Denmark and Canada had shown stronger effects.

ii. The “de-commodification” hypothesis tells us that the policy context in the Nordic countries should make it easier to opt out of the workforce, in particular those with low education. The results do not support that. The employment effect of illness is

particularly strong in UK which, along with Canada, has the lowest degree of de-commodification.

iii. An active labour market policy hypothesis is partially supported. Higher employment among chronically ill and disabled people was observed for the countries with high spending on active labour market policies. Denmark and Sweden are spending much more on ALMP than UK and Canada. Norway is not high on this scale, but has suffered fewer periods of high unemployment crisis than the others.

iv. Macroeconomic factors and the business cycle. The “Business cycle” theory is not supported. Denmark and Sweden has had the largest variations in unemployment but still very high employment rates among the ill. In most of the countries (except Sweden), unemployment was falling, but employment among the ill and low educated did not rise. In fact, in some countries employment even declined for the ill during periods of rising national prosperity and employment.

v. Post-industrialisation effects. This hypothesis is partially supported in that we observe growing employment polarization between healthy and ill mainly independent of short-term economic fluctuations (trend tables 5.5-5.9). The different countries may find themselves in somewhat different phases of post-industrialism, and this may help explain different country patterns. Canada has experienced a more limited reduction of industrial employment, which might explain why it can keep up employment while still having a less active labour market policy.

Interpreting the adverse UK results

Referring back to Table 5.2, it can be noted that the working age population in UK has been exposed to considerable macroeconomic changes over the last decades, though not more so than Denmark. UK has low employment protection, but that is true for Canada and Denmark too. The economic security and de-commodification in UK is low, but this might primarily deter people from leaving employment, even in situations where illness is reducing their workability. Finally UK differs, along with Canada, from the Nordic countries in spending fewer resources on active labour market policies.

From the comparison of these five countries, it seems as if the problematic employment situation in UK for people with limiting illness and low education is a result of adverse long term macroeconomic conditions combined with the lack of active labour market policies. The “flexibility” policy with weak employment protect is not keeping the chronically ill in the labour market. This contrasts with the results from Denmark, where flexibility is combined with a high degree of active labour market policy, and the chronically ill fare relatively better in the labour market. The interaction between education and limiting illustrates the fact that chronically ill and disabled individuals with low education face multiple barriers to gaining employment. Tackling the low level of education and providing opportunities for vocational rehabilitation training among these groups would help improve their labour market participation.

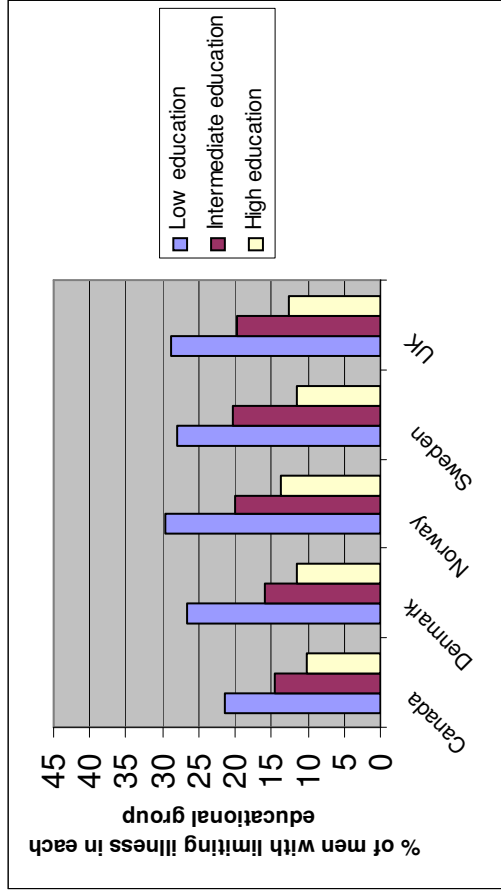


Fig.5.2. Age-standardised proportions of chronically ill men in each level of education, 2005

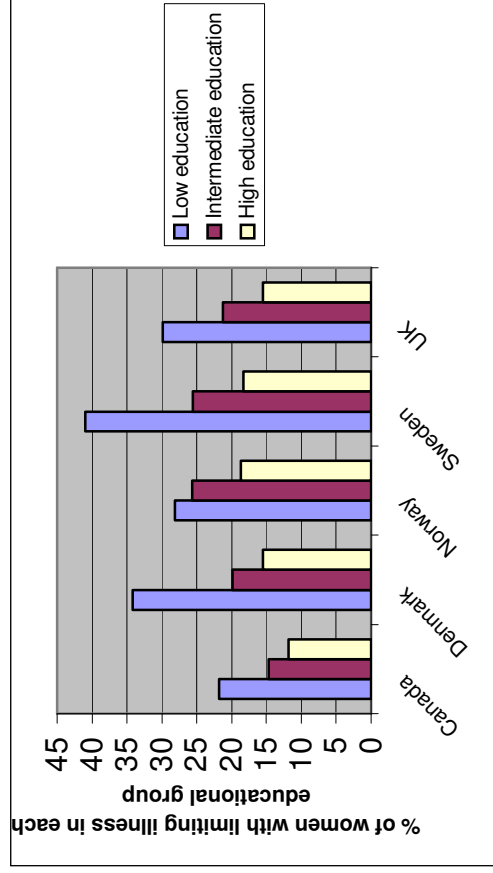


Fig.5.3. Age-standardised proportions of chronically ill women in each educational level, 2005

Table 5.3. Age-standardised employment rates (95% confidence intervals in brackets) for men and women of working age (25-59) by health status: 2005

	% aged 25-59 employed (95% CI)				
	CANADA*	DENMARK	NORWAY	SWEDEN	UK +
Healthy men	86.4 (86.4-86.4) 1,097,215	90.6 (89.7-91.6) 3,208	93.2 (91.0-95.4) 1730	93.3 (91.7-94.9) 996	92.9 (92.7-93.2) 34,663
Men with limiting illness	62.7 (62.7-62.7) 118,875	70.5 (67.0-74.0) 496	70.6 (66.4-74.7) 398	62.6 (55.3-69.9) 218	58.9 (57.8- 60.1) 8,794
Healthy women	74.7 (74.7-74.7) 981,017	83.3 (82.1-84.6) 2,932	88.6 (86.3-90.8) 1571	88.4 (86.4-90.4) 972	79.8 (79.4-80.2) 37,349
Women with limiting illness	53.6 (53.6-53.6) 107,683	56.0 (52.6-59.4) 493	64.3 (60.9-67.7) 528	64.9 (58.4-71.5) 298	49.9 (48.9-51.0) 10,719

* Canada 2001. + uses UK definition 1 of limiting longstanding illness (including work plus daily activity limitations);

Table 5.4: Adjusted rate differences and excess risk due to interaction (linear regression coefficient and Confidence intervals (CIs) in brackets) of not being employed by limiting illness, country and education. Men and women 2001-06.

	United Kingdom +	Canada	Denmark	Norway	Sweden
<i>Men</i>					
Limiting illness* (LI)	0.15 (0.13-0.17)	0.16 (0.16-0.17)	0.17 (0.09-0.25)	0.05 (0.00-0.10)	0.17 (0.11-0.24)
Country	-0.01 (-0.02-0.00)	0.05 (0.05-0.06)	Ref	-0.01 (-0.02- -0.00)	0.00 (-0.01-0.01)
Interaction with LI	0.13 (0.09-0.16)	0.05 (0.02-0.09)	Ref	-0.01 (-0.06-0.03)	0.03 (-0.01-0.08)
Low education**	0.03 (0.02-0.03)	0.07 (0.06-0.07)	0.00 (-0.02-0.02)	0.03 (0.02-0.04)	0.00 (-0.02-0.02)
Interaction with LI	0.23 (0.20-0.25)	0.10 (0.10-0.11)	0.06 (-0.03-0.15)	0.20 (0.14-0.25)	0.12 (0.05-0.19)
<i>Women</i>					
Limiting illness* (LI)	0.14 (0.12-0.16)	0.15 (0.15-0.15)	0.12 (0.06-0.18)	0.14 (0.09-0.19)	0.13 (0.07-0.19)
Country	0.02 (0.01-0.03)	0.09 (0.08-0.10)	Ref	-0.02 (-0.03- -0.01)	-0.01 (-0.02-0.00)
Interaction with LI	0.03 (0.01-0.06)	-0.03 (-0.07-0.00)	Ref	-0.08 (-0.12- -0.04)	-0.08 (-0.12 - -0.03)
Low education**	0.11 (0.11-0.12)	0.14 (0.14-0.14)	0.05 (0.03-0.07)	0.07 (0.05-0.09)	0.03 (0.01-0.05)
Interaction with LI	0.20 (0.17-0.22)	0.09 (0.08-0.09)	0.23 (0.16-0.30)	0.11 (0.05-0.17)	0.13 (0.07-0.18)

*stratified for country and sex, adjusted for age and education
+ uses UK definition 1 of limiting longstanding illness (including work plus daily activity limitations) ;
** stratified for country and sex, adjusted for age and health

Note: Figures in Table 5.4 are regression coefficients and the figures labelled ‘interaction’ denote the excess risk due to interaction (Skrondal A: Am J Epidemiology 2003;158:251-58).

Table 5.5. Trends in age-standardised employment rates for men and women of working age (25-59) by health status+: UK, 1984-2006.

% aged 25-59 employed (95% CI)							
	1984-86	1987-90	1991-93	1994-96	1997-99	2000-03	2004-06
<i>MEN</i>							
Healthy + low education (B)	82.2 (81.8-82.6)	85.4 (85.0-85.7)	82.7 (82.3-83.1)	82.7 (82.3-83.2)	86.0 (85.6-86.4)	86.9 (86.5-87.2)	87.6 (87.2-88.1)
Healthy + high education (A)	94.6 (93.0-96.1)	95.5 (94.2-96.8)	93.2 (92.0-94.4)	93.1 (92.0-94.2)	93.7 (92.7-94.7)	94.0 (93.2-94.9)	94.4 (93.3-95.4)
<i>Relative differential (% difference)</i> <i>I(B-A) / A_jx100</i>	-13.1	-10.6	-11.3	-11.2	-8.2	-7.6	-7.2
<i>Limiting illness + low education (B)</i>	39.8 (38.4-41.1)	42.3 (41.2-43.4)	35.6 (34.5-36.7)	30.7 (29.7-31.7)	30.3 (29.3-31.4)	31.2 (30.3-32.2)	30.1 (29.0-31.3)
<i>Limiting illness + high education (A)</i>	77.2 (74.6-79.9)	78.3 (76.2-80.3)	71.6 (69.6-73.6)	68.6 (66.7-70.4)	68.7 (67.0-70.4)	71.8 (70.4-73.2)	72.8 (71.1-74.4)
<i>Relative differential (% difference)</i> <i>I(B-A) / A_jx100</i>	-48.5	-46.0	-50.3	-55.3	-55.9	-56.6	-58.7
<i>WOMEN</i>							
Healthy + low education (B)	57.8 (57.3-58.2)	61.8 (61.4-62.2)	62.4 (61.9-62.8)	62.4 (61.9-62.8)	63.5 (63.0-64.0)	63.5 (63.1-64.0)	62.8 (62.2-63.4)
Healthy + high education (A)	75.9 (75.2-76.7)	81.1 (80.5-81.7)	83.1 (82.6-83.6)	84.6 (84.2-85.1)	85.9 (85.5-86.3)	87.3 (87.0-87.7)	87.8 (87.5-88.2)
<i>Relative differential (% difference)</i> <i>I(B-A) / A_jx100</i>	-23.9	-23.8	-24.9	-26.2	-26.1	-27.3	-28.5
<i>Limiting illness + low education (B)</i>	26.6 (25.5-27.6)	28.2 (27.3-29.0)	25.3 (24.3-26.2)	21.7 (20.8-22.5)	20.0 (19.1-20.8)	19.5 (18.8-20.3)	18.1 (17.1-19.0)
<i>Limiting illness + high education (A)</i>	55.1 (52.0-58.3)	57.3 (54.8-59.8)	57.9 (55.7-60.2)	59.4 (57.5-61.3)	61.8 (60.1-63.5)	63.2 (61.8-64.6)	66.1 (64.5-67.6)
<i>Relative differential (% difference)</i> <i>I(B-A) / A_jx100</i>	-51.7	-50.8	-56.3	-63.5	-67.6	-69.2	-72.6

+Definition 2 used here: limiting illness based on restrictions on kind of work (see appendix 2, table A2.1)

Table 5.6. Trends in age-standardised employment rates for men and women of working age (25-59) by health status: Sweden 1978-2005.

% aged 25-59 employed (95% CI)										
	1978-81	1982-84	1985-87	1988-90	1991-93	1994-96	1997-99	2000-02	2003-05	
<i>MEN</i>										
Healthy + low educ (B)	97.7 (97.2-98.3)	95.9 (94.8-96.9)	95.4 (94.2-96.6)	97.0 (96.0-98.1)	90.7 (88.5-93.0)	89.4 (87.0-91.9)	89.0 (86.1-91.9)	89.8 (86.5-93.1)	87.7 (83.6-91.9)	
Healthy + high educ(A)	96.1 (95.3-96.9)	95.4 (94.3-96.6)	96.3 (95.4-97.2)	96.1 (95.1-97.1)	92.4 (90.9-93.8)	90.0 (88.5-91.5)	91.6 (90.2-93.1)	92.1 (90.8-93.4)	91.1 (89.7-92.5)	
Relative differential (% difference)	1.7	0.5	-0.9	0.9	-1.8	-0.7	-2.8	-2.5	-3.7	
$I(B-A) / A \times 100$										
<i>WOMEN</i>										
Limiting illness + low education (B)	79.3 (76.5-82.0)	75.1 (70.9-79.3)	75.5 (71.1-80.0)	77.3 (72.3-82.3)	72.8 (66.8-78.8)	58.6 (51.2-66.0)	50.8 (42.8-58.8)	55.9 (47.5-64.2)	46.3 (36.8-55.7)	
Limiting illness + high education (A)	85.0 (79.1-90.8)	89.9 (84.3-95.6)	86.5 (79.8-93.3)	84.6 (78.0-91.1)	80.0 (74.1-85.8)	80.2 (73.5-86.9)	76.1 (68.9-83.4)	78.3 (71.4-85.2)	75.5 (69.2-81.7)	
Relative differential (% difference)	-6.7	-16.5	-12.7	-8.6	-9.0	-26.9	-33.3	-28.6	-38.7	
$I(B-A) / A \times 100$										
<i>WOMEN</i>										
Healthy + low educ (B)	77.1 (75.7-78.5)	82.5 (80.5-84.4)	86.0 (84.0-88.1)	89.8 (87.6-91.9)	83.7 (80.5-86.9)	77.5 (73.9-81.1)	76.1 (72.2-79.9)	75.4 (70.5-80.2)	72.8 (67.1-78.6)	
Healthy + high educ(A)	91.6 (90.2-93.1)	93.0 (91.4-94.6)	94.8 (93.5-96.1)	95.5 (94.4-96.5)	90.7 (89.1-92.2)	89.5 (88.0-91.1)	88.1 (86.6-89.7)	89.9 (88.5-91.3)	90.6 (89.3-92.0)	
Relative differential (% difference)	-15.8	-11.3	-9.3	-6.0	-7.7	-13.4	-13.6	-16.1	-19.7	
$I(B-A) / A \times 100$										
<i>WOMEN</i>										
Limiting illness + low education (B)	59.0 (56.0-62.0)	61.5 (57.0-66.1)	61.6 (56.3-66.8)	67.2 (62.2-72.3)	61.9 (55.2-68.5)	50.5 (43.8-57.1)	41.3 (34.0-48.6)	44.6 (36.5-52.7)	38.3 (30.1-46.6)	
Limiting illness + high education (A)	86.4 (81.1-91.6)	90.9 (85.9-95.9)	86.5 (80.8-92.2)	85.8 (80.8-90.8)	80.4 (74.6-86.1)	76.6 (70.5-82.7)	70.5 (64.1-76.9)	74.4 (69.5-79.4)	74.6 (69.3-79.8)	
Relative differential (% difference)	-31.7	-32.3	-28.8	-21.7	-23.0	-34.1	-41.4	-40.1	-48.7	
$I(B-A) / A \times 100$										

Table 5.7. Trends in age-standardised employment rates for men and women of working age (25-59) by health status: Norway, 1980-2005.

	% aged 25-59 employed (95% CI)			
	N			
	1980-83	1987-91	1995-98	2002-05
<i>MEN</i>				
Healthy + low education (B)	96.8 (95.4-98.2)	95.0 (93.0-97.1)	94.4 (91.8-96.9)	88.6 (84.5-92.7)
Healthy + high education (A)	95.4 (93.5-97.3)	98.3 (97.1-99.4)	98.4 (97.3-99.5)	96.0 (94.8-97.1)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	1.5	-3.4	-4.1	-7.7
Limiting illness + low education (B)	78.5 (72.9-84.2)	70.9 (62.9-78.8)	61.8 (52.5-71.2)	66.3 (57.3-75.2)
Limiting illness + high education (A)	95.0 (89.3-100.7)	93.8 (85.2-102.4)	95.5 (90.4-100.6)	90.9 (86.5-95.2)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-17.4	-24.4	-35.3	-27.1
<i>WOMEN</i>				
Healthy + low education (B)	70.8 (67.3-74.2)	78.8 (75.2-82.4)	80.8 (76.1-85.5)	77.8 (72.3-83.4)
Healthy + high education (A)	81.2 (77.0-85.3)	91.9 (89.2-94.5)	93.5 (91.3-95.6)	93.3 (87.8-98.8)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-12.8	-14.3	-13.6	-16.6
Limiting illness + low education (B)	57.6 (52.4-62.9)	55.0 (47.6-62.5)	51.6 (42.8-60.3)	36.9 (25.4-48.5)
Limiting illness + high education (A)	77.9 (68.6-87.2)	84.1 (74.1-94.1)	92.5 (87.0-98.0)	79.2 (74.4-84.0)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-26.1	-34.6	-44.2	-53.4

Note: Figures in bold are not age-standardised for statistical reasons.

Table 5.8. Trends in age-standardised employment rates for men and women of working age (25-59) by health status: Denmark, 1994-2005.

	% aged 25-59 employed (95% CI)		
	N		
	1994	2000	2005
MEN			
Healthy + low education (B)	85.6 (80.7-90.5)	86.3 (83.6-88.9)	84.0 (80.3-87.7)
Healthy + high education (A)	90.1 (86.5-93.7)	90.0 (88.2-91.7)	89.2 (87.3-91.1)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-5.0	-4.1	-5.8
Limiting illness + low education (B)	62.8 (51.8-73.8)	50.9 (43.7-58.1)	55.6 (47.6-63.6)
Limiting illness + high education (A)	70.7 (53.4-88.0)	76.6 (70.0-83.1)	72.5 (63.8-81.1)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-11.2	-33.6	-23.3
WOMEN			
Healthy + low education (B)	73.2 (67.7-87.7)	77.4 (74.0-80.8)	66.8 (61.4-72.2)
Healthy + high education (A)	91.4 (87.6-95.2)	87.6 (86.0-89.7)	86.6 (84.8-88.4)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-19.9	-11.6	-22.9
Limiting illness + low education (B)	35.2 (23.4-46.9)	35.7 (29.6-41.8)	27.3 (20.6-33.9)
Limiting illness + high education (A)	82.3 (71.3-93.3)	70.8 (64.1-77.4)	75.5 (69.6-81.4)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-57.2	-49.6	-63.8

Table 5.9. Trends in age-standardised employment rates for men and women of working age (25-59) by health status: Canada, 1986-2001.

% aged 25-59 employed (95% CI)				
	1986	1991	1996	2001*
<i>MEN</i>				
Healthy + low education (B)	83.51 (83.50-83.51)	74.23 (74.23-74.24)	69.60 (69.60-69.60)	72.04 (72.04-72.05)
Healthy + high education (A)	91.57 (91.56-91.57)	91.42 (91.42-91.43)	89.61 (89.61-89.62)	89.63 (89.63-89.64)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-8.80	-18.80	-22.33	-19.63
<i>WOMEN</i>				
Limiting illness + low education (B)	51.70 (51.69-51.71)	34.15 (34.14-34.16)	26.50 (26.50-26.51)	38.13 (38.13-38.14)
Limiting illness + high education (A)	72.06 (72.05-72.08)	70.31 (70.30-70.33)	62.69 (62.68-62.69)	73.97 (73.97-73.98)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-28.25	-51.43	-57.73	-48.45
<i>MEN</i>				
Healthy + low education (B)	42.42 (42.42-42.42)	45.73 (45.73-45.73)	43.62 (43.62-43.63)	47.92 (47.91-47.92)
Healthy + high education (A)	76.20 (76.19-76.20)	80.67 (80.67-80.68)	81.08 (81.08-81.08)	82.06 (82.06-82.06)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-44.33	-43.31	-46.20	-41.60
<i>WOMEN</i>				
Limiting illness + low education (B)	20.99 (20.98-20.99)	21.29 (21.28-21.29)	16.15 (16.14-16.15)	25.09 (25.08-25.09)
Limiting illness + high education (A)	59.84 (59.83-59.85)	59.87 (59.86-59.88)	55.15 (55.15-55.16)	67.15 (67.14-67.16)
<i>Relative differential (% difference)</i> <i>[(B-A) / A]x100</i>	-64.92	-64.44	-70.72	-62.64

Note: Comparisons cannot be drawn between the three earlier years of 1986/1991/1996 and the final year of 2001 as the definition of limiting illness in the Canadian Census changed in 2001.

5.3. Review of evidence on effectiveness of focused interventions

From a search of 16 electronic databases and 111 relevant organisational websites and other grey literature sources we identified 86 studies that fitted our inclusion criteria for the review (26 from the electronic databases and 60 from the grey literature). In addition we included 14 of the 16 studies from our previous review of UK interventions on the same subject (Bambra *et al* 2005, citation 100). **Appendix 4** provides summary tables of all the papers reviewed. Numbers in the text refer to the papers' numbers in the tables. There were examples of studies on all the intervention types in our typology (**Table 5.1**). The following gives an outline of the review findings: full analyses will be disseminated in a series of papers.

5.3.1. Interventions to reform the employment environment

A. Legislation against discrimination

One factor said to contribute to the poorer employment chances of people with chronic illnesses or disabilities is that employers discriminate against them when recruiting staff, during employment and when deciding on redundancies. Anti-discrimination legislation aims to tackle this employment barrier. Although all five countries have implemented some form of anti-discrimination legislation, our searches only located studies of the employment effects of the UK Disability Discrimination Act 1995, 2005. Of these eight studies, four analysed national population survey data to estimate the employment effects of the Act on disabled people (1-4) and four employed a combination of cross-sectional surveys with qualitative interviews to assess employers' awareness of the Act and how its provisions were being implemented (5-8).

The four papers analysing national population survey data before and after the implementation of the DDA in 1996 found no evidence of a positive effect of the DDA on employment rates of people with limiting long-standing illness. The employment situation worsened for disabled people with lower skills, particularly women, and those with mental health conditions (Pope and Bambra 2005; Jones *et al* 2006; Bambra and Pope, 2007; Bell and Heitmuller, 2005). These studies could not account for alternative explanations for the trends observed (see section 5.3.3.)

The four mixed methods studies found levels of awareness of anti-discrimination legislation as high as three-quarters of employers, although less than one-quarter were aware of the Act itself, and awareness levels were higher amongst larger employers, public sector and voluntary organisations and those already employing disabled people. The papers also report low levels of awareness of the Act's main provision - making reasonable adjustments for disabled employees. Roberts *et al* (2005: 28) conclude that 'the concept of reasonable adjustment was poorly understood and... there was considerable uncertainty as to what is meant by it.' Only one third of employers who had made adjustments indicated that such adjustments were made in response to the Act. Apparent contradictions in attitudes towards employing disabled people were found with the majority of employers stating that their workplaces had equal opportunities, but at the same time around half stating that it would be difficult to recruit or retain a disabled employee due to workplace practices.

B. Workplace and employment accessibility

Accessibility strategies are designed to improve recruitment and employment retention rates by reducing employment and workplace barriers which people with limiting conditions may face. Interventions based on this strategy have been implemented across all five countries, although our searches only located evaluations of such interventions from Canada, Sweden and the UK. These seven studies comprised two analysing administrative data on injured workers (9-10), one repeat cross-sectional survey of long-term sick-listed employees (11), and three qualitative studies (12-14). We also take into consideration evidence from four mixed method studies (15-18) of employees and employers experiences of accessibility interventions reported in our previous UK systematic review of welfare to work interventions (Bambra *et al* 2005).

Two Canadian studies (Campolieti 2005, Butler *et al* 1995), used routine cross sectional survey data, to estimate the effect of workplace modifications/flexible arrangements on employment following disability associated with workplace injury. Different outcome measures were used by each author. Butler *et al* (1995) used return to work with a single absence as compared to return to work with multiple absences, whilst Campolieti (2005) used the duration of post injury employment. Campolieti found that a flexible work schedule or modified work were associated with a significant increase in employment duration by 25.5% and 55.8% respectively ($p < 0.05$, $n = 5645$), Butler *et al* (1995) found that people given light duties and reduced hours were twice as likely to return to work and not have multiple absences from work ($n = 1850$).

In a Swedish survey of private-sector salaried employees, followed-up after 12 months in 2001, Johansson *et al* (2006) examined whether return to work after long-term sickness absence was affected by *adjustment latitude*. This was defined as opportunities to adjust one's work to one's state of health by choosing among work tasks, for example, or deciding about work pace and working hours. For both men and women, the likelihood of return to work increased with increasing numbers of opportunities to adjust the organisation of their work. Controlling for health, stimulating work and demanding domestic work, the odds ratio for returning to full-time work for women with between 7-9 opportunities to adjust their work was 2.9 (95% CI 1.9 – 4.3) and for part time women as 3.9 (95% CI 2.7- 5.7). The equivalent odds ratios for men were 3.2 (95% CI 2.0 – 5.1) and 4.2 (95 % CI 2.7 – 6.7). The study was based on responses from 3,056 subjects (response rate of 55%).

The mixed method and qualitative studies from Sweden and the UK (Nordqvist *et al* 2003, Isaksson Mettavaino & Ahlgren 2004, Thornton & Corden 2002, RNIB 2004, Thornton *et al* 2001, Hillage *et al* 1998, Beinart *et al*, 1996) all found that disabled employees and their employers reported that workplace adjustments had played a central role in either maintaining or attaining employment for disabled people. One notable finding in the two Swedish studies was the importance that disabled workers placed on other workers understanding and accepting the adjustments.

C. Financial incentives to employers

To overcome the potential added costs of employing a disabled worker or employers' perceptions that disabled workers are less productive, financial incentives, such as

wage subsidies, have been offered to employers taking on disabled workers. Whilst some form of incentive to employers has been offered in all five countries, our searches only located two evaluations of this intervention type from Denmark and two from Norway. Denmark's *flexjob* scheme was evaluated through an econometric analysis of survey data (19) and a qualitative study (20). Two Norwegian papers were located reporting on a cluster randomised controlled trial (21, 22); In addition, two qualitative studies (included in Bambra *et al* 2005) examined the UK's *Job Introduction Scheme* (23) and *Work Trial* (24).

The *flexjob* scheme has been in operation in Denmark since 1998 and offers a permanent wage subsidy to employers of 50% to 65% of salary for the employment of eligible disabled people, with adjustments to hours and workplaces. In Datta Gupta & Larsen's (2008) econometric evaluation of *flexjobs*, a positive employment effect was only found for work-limited disabled people aged 35-44 (10.5-12.5%, $p < 0.05$) compared to the non-disabled after the scheme was introduced. No significant employment effects were found for 45-59 year-olds, while for the 18-34 years olds the effect was uncertain. Further, they found that the employment probability of the disabled with no reduction in workability was raised by 5-8% compared the non disabled after the introduction of the *flexjobs* scheme. This suggests that the *flexjobs* might increasingly have been assigned to those with no reduction in work ability who might otherwise have obtained a job without the scheme. Hohnen's (2001) qualitative study raises the possibility that the Danish *flexjobs* may create marginalisation for disabled workers within the workplace due to *flexjobs* being largely low pay, low skill and outside the normal legal framework of employment rights.

In Norway, as outlined on Section 5.1.1, *Active Sick Leave* has been offered by the national insurance administration since 1993 to people on long-term sick leave to help them make a rapid return to work with modified duties. The amount and type of work can be adjusted to suit the particular needs of the employee, while the insurance office pays 100% of normal wages. This enables the employer to hire a full-time replacement in addition to the employee on *Active Sick Leave (ASL)*. Since its introduction, though, the scheme has had very low take-up (used by less than 1% of eligible cases in 1995). One hypothesised reason for low take-up was the considerable degree of cooperation the scheme requires between client, GP, employer and local insurance agency. Scheel *et al* (2002a and b) evaluated the effectiveness of two strategies to improve the use of *Active Sick Leave* for people with low back pain in 1998-99. Sixty-five municipalities in three counties were randomised in clusters and assigned to a passive strategy (four elements including targeted information to patients, a reminder for GPs and a standard agreement between employer and employee), a proactive strategy (all four "passive" strategies plus a continuing education workshop for GPs and a resource person to actively follow up patients with motivating phone calls) or a control group (no special information or support around ASL). Follow-up over 12 months showed that the proactive strategy could increase the use of ASL by 50%: ASL was used significantly more in the proactive strategy municipalities (17.7%) compared with the passive strategy and control municipalities (11.5%, $p=0.018$) (Scheel *et al*, 2002 a). In terms of the effects on employment outcomes, however, this increase did not result in measurable improvements in return to work or quality of life at the population level. The median number of days on sick leave was similar in the proactive strategy group (70 days), the passive strategy group (68 days) and the control group (71 days) ($p=0.8$). The proportion of patients

returning to work before 50 weeks was also similar in the proactive (89%), passive (89.5%) and control groups (89.1%) (Scheel *et al*, 2002b). The conclusion from this trial was that it is unlikely that efforts to increase the use of ASL will result in measurable economic benefits or improved health outcomes at the population level.

In the UK, the functioning of the *Job Introduction Scheme* as a financial incentive was examined in a qualitative study of 40 employers, 32 advisers, 14 regional benefit managers and 10 beneficiaries in 1997 (Atkinson and Kodz, 1998). This scheme offered a 6-13 week wage subsidy paid directly to firms that employed a benefit claimant with a disability or chronic illness. The majority of employers (30/40) reported that they had continued the employment of the participant after the 6-13 week trial period. Half of them, however, said that they would have offered the employment to the participants without the financial incentive because they were filling hard-to-recruit vacancies or part-time posts. The resulting employment tended to be low paid and low skilled. A key finding from this study was that the payment to employers was too low to act as a credible financial incentive: it made only a small contribution towards the total cost of the placement. It therefore only appealed to a very small niche of employers and a more substantial sum would be required to widen its appeal. A second qualitative study reported on participants and non-participants perceptions of the usefulness of the UK's *Work Trial* programme (Corden and Sainsbury, 2001). This was designed to enable employers to assess the capabilities of a disabled applicant for a 15-day trial period, during which the individual was paid by the benefit office (i.e. the employer did not have to pay the wages). While all participants obtained employment after the 15-day trial period, longer-term retention was considered to be a problem. The views of non-participants were split between those who said they would welcome the opportunity that the scheme offered and those who were reluctant to work for an employer without wages.

D. Enhanced return to work planning

These strategies focus on early intervention to actively manage return to work plans for sick-listed individuals and often require the range of actors in the rehabilitation process, for example, the employer, employee, primary care, employment and social security staff. Such multi-professional interventions to introduce sick-listed employees back into the work environment have been implemented in Canada, Norway and Sweden. Our searches located 16 relevant studies all from Sweden, evaluating various forms of this intervention type. These employed a range of study designs including case review (25) four matched pair studies (26, 27, 34, 35), seven qualitative studies (12, 28-33) and four studies using multiple methods to evaluate the same intervention (36-39).

In Sweden, all working age adults (with a few exceptions) when on long-term sick leave have the possibility (but not the right) to receive vocational rehabilitation (VR). The relevant legislation is enacted as a framework law, allowing local agencies involved in delivery wide discretion in decision making and action. Co-ordination and co-operation between the many possible local actors was identified as a problem to efficient implementation and in the mid-1990s several projects were initiated with the primary aim of improving co-operation/coordination in the provision of VR services. These included the *Beta Project*, *Stockholm Co-operation Project* and *Delta Project*, for which we found evaluation studies. Jacobsson *et al* (2005) evaluated the effects on employment of the *Beta Project*, which ran from 1996 to 1998 in the municipality of

Kungsbacka. A distinctive feature of the *Beta* project was that the client's rehabilitation was planned through the involvement of "multi-professional rehabilitation groups", consisting of the client, a rehabilitation official from the county social insurance office, an occupational therapist from a primary care unit, an employment counsellor from the county employment office and a social worker from the benefit office. The study compared 51 clients of the project during 1998-99 with two matched comparison groups (one local, one national), who had their rehabilitation coordinated in the "conventional" way (153 participants in total). The results showed that 68.8% of the *Beta* group and 49% of both the local and national comparison groups had some form of employment 24 months after rehabilitation. The likelihood of becoming employed after receiving rehabilitation services was twice as high for the *Beta project* group as for the comparison groups. For all the groups, the majority of employment was connected to some form of government subsidy provided to the employer.

The evaluation of the *Stockholm Co-operation Project* employed a similar matched pair design to compare employment outcomes for 64 individuals who participated in a systematic multi-professional rehabilitation programme with 64 people who received conventionally organised rehabilitation during 1997-99 (Karrholm et al, 2006). The intervention group had substantially less sick leave days per month (and more working days) than the comparison groups during the second half-year after the rehabilitation co-ordination period. The co-operation project gave better employment outcomes for people with long previous sick leave, but not for cases with less previous sick leave. The project also generated economic gains at several levels: up to 1,278 Euro per month and person, and gains of up to 2,405 euro per month and person for those with more long-term sick leave during the 12 months prior to the intervention period.

The evaluation of another coordination project, the *Delta Project* funded under Swedish legislation (SOCSAM) to enable financial collaboration among relevant authorities) found no significant reductions in later sick leave (study = 94 days, controls = 87 days, $p=0.781$) or increases in part-time sick leave, nor significant improvements across a range of health outcomes compared to the controls (Hultberg et al 2003, 2005, 2006, 2007). The authors note that the quantitative elements of their studies are based on small, geographically limited samples and their conclusions are therefore tentative and must be treated with some caution.

The overall findings from the qualitative studies of the Swedish initiatives were that whilst sick-listed employees regarded the role of employers (or social insurance officers) as vital to the return to work process, employers often initiated the process of rehabilitation assessment late or not at all and in an inefficient and inadequate fashion. The studies suggest a lack of awareness of their statutory duties on the part of employers and social insurance officers, and a lack of adequate communication and coordination among the rehabilitation actors.

5.3.2. Interventions focused on strengthening individuals

E. Financial incentives/disincentives for welfare claimants

Over the past decade or so, all five countries studies have reformed their welfare benefits for disabled people, for example by tightening eligibility criteria or reducing

benefit levels. Our search terms did not specifically include studies examining whether such reforms to the overall level of benefits had effects on the employment levels of disabled people. This is the subject of a newly initiated review. Our searches concentrated on interventions that offered positive financial incentives to return to work, such as maintenance of benefits whilst working, tax credits to make low paid work more attractive or specific payments to increase initial wages. Our searches located ten studies: one matched cohort study from Sweden (40) and 9 qualitative studies from the UK (41-49). We also include four relevant UK studies (18, 24, 51, 52) from Bamba *et al* (2005).

The Swedish population-based controlled study investigated the impact of a Swedish law which came into force in January 2000 on *Resting Disability Pension (RDP)* (Eden *et al*, 2006). The RDP scheme permitted disability pensioners to have a trial of going back to work, full-time or part-time, without jeopardising their disability benefits. For the first three months, the individual may continue to receive their disability pension as well as their salary. The individual also has the right to leave the workforce and go back to the disability pension any time during the first year (and, after a further application procedure, during the following two years). The RDP was taken up by 0.2% (771 people) of all disability pensioners in Sweden during 2000 and most of these (71%) continued their work trial for over 12 months. The population-based controlled study traced the progress of all 299 long-term sick-listed individuals with musculoskeletal disorders (the most common diagnosis) who had been granted RDP in 2000 and a control group of 242 disability pensioners matched for diagnosis, age and gender who had not taken up RDP. The study found that individuals returning to work by means of a *resting disability pension* often had a long experience as disability pensioners: up to nine years or more. It was more likely that the number of years since the individual was first granted a disability pension was three or more among RDPs than among controls (POR = 2.79-5.10). When compared to controls, the RDPs were also more likely to have additional education (POR = 3.02), more likely to have had previous work that was not “always” physically exhausting, and more likely to perceive that they had good treatment by the social insurance office. The study concluded that it may be fruitful to encourage a return to work for people with musculoskeletal disorders even after several years as a disability pensioner. The study indicates that it might be tougher, however, for the less educated who had had strenuous previous work, for whom other kinds of support and incentives may be needed.

In the UK, *Permitted Work Rules (PWR)* were introduced in April 2002, replacing earlier regulations. Under PWR, claimants of incapacity benefits may also work up to 16 hours per week and earn a set amount each week, for a limited time only (a maximum of 52 weeks). The new rules aimed to help people on incapacity benefits to undertake, or try, some work whilst continuing to receive benefits, with an emphasis on helping them to progress to full-time employment over time. An uncontrolled cohort study of PWR (Dewson *et al* 2004, 2005), carried out three annual waves of telephone interviews with a sample of people who were claiming some form of incapacity benefit and were (or had been at some point during 2002) doing work under the PWR or its predecessor. A total of 1,435 claimants were interviewed at wave one, 929 re-interviewed at wave two and 676 re-interviewed again at wave three. Those lost to follow-up were claimants who refused permission to be re-interviewed or for whom a current address was not available, which influences the

representativeness of the sample in the final wave. In all, twenty-five percent of all respondents were in work and not receiving incapacity benefits, that is, they had managed to make, and sustain, a move from benefits to work. A further 35 % were in work and still receiving benefits. Forty-three percent were not in work, of which the vast majority (92%) were in receipt of incapacity benefits. The positive employment effects appeared stronger for individuals who had a shorter history of claiming benefits and were living with a working partner. Many respondents, whether in work at wave three or not, reported benefits from their recent work experience, including gains in knowledge that they could cope with work, increases in self-confidence and motivation.

A UK qualitative study of 54 *Disabled Persons' Tax Credit* recipients reported that recipients felt the *Credit* made work seem more financially secure, overcame worries about low pay and offered help with childcare costs thus aiding movement into work. The study also noted the low levels of take up of the *Credit*, due largely to lack of awareness of tax credits in general (Corden and Sainsbury 2003).

The UK *Pathways to Work* pilots included the *Return to Work Credit*, a payment of £40 per week for up to 52 weeks for claimants working over 16 hours per week and earning under £15,000 p.a. Our searches located six qualitative studies with either recipients or administrators of the *Credit* (Corden & Nice 2006a, 2006b, 2006c, Corden *et al* 2005, Dickens *et al* 2004a, Knight *et al* 2005). The recipient studies had inherent problems with selection bias, as all except Corden & Nice 2006c were conducted with new benefit claimants who are more likely to return to work than existing claimants. Four of these studies (Corden *et al* 2005, Corden & Nice 2006a, 2006b, 2006c) indicated that the *Credit* could support lasting transitions from benefits to work for some people (particularly low-skilled, part-time female workers), through aiding financial security, although there was little evidence that it influenced their decisions to return to work. Studies of the administrators indicated that most felt the *Credit* had the potential to support return to work, especially for part-time work and in low wage areas, but that it worked largely for those who would have returned to work anyway or were closest to the labour market (Dickens *et al* 2004a, Knight *et al* 2005). None of the studies discussed provided clear indications that the *Credit* acted as an incentive for disability benefit claimants to return to work, and all indicate that it largely benefits those already close to the labour market.

Our previous review found one mixed method and two qualitative studies evaluating the effects of in-work benefits in the UK (Rawlingson & Berthoud 1996, Corden & Sainsbury 2001, Thornton & Corden 2002). One common problem with these benefits was low awareness of them by potential recipients leading to low levels of take up. Rawlingson & Berthoud's (1996) evaluation of *Disability Working Allowance* also found that the benefit had helped relatively few disabled people into work and that low take up rates were related to disabled people wanting to move into 'proper' full-time unsubsidised work and that significant barriers to employment, such as employers attitudes, local lack of work and low pay/status jobs, existed.

F. Individual case management and job search assistance

All five countries have adopted strategies aimed at helping people move into employment by providing general support in finding work. These include efforts to enhance job search skills, match individuals to jobs, arrange access to training and

education schemes, offer information about in-work benefits, and providing other forms of vocational advice and support, such as return to work planning, often on an individualised, case management basis. Our searches found twenty-nine studies evaluating aspects of these types of intervention in total: two from Canada (52, 53), two from Denmark (54, 55) and the UK (41-49, 56-75). We also included two studies (76, 77) from our previous UK review (Bambra *et al* 2005).

Two Canadian studies used cross-sectional surveys with follow ups (HRDC 2001, Cross Gilroy Inc. 2007). The first was an evaluation of the Opportunities Fund for Persons with Disabilities (OF), a federal initiative established in 1997 to “assist persons with disabilities in preparing for, obtaining and keeping employment or become self-employed”. The evaluation of OF included a telephone survey of 735 participants in OF projects and a comparison group of 411 disabled people who had not participated. Sixty percent of participants were in employment following the programme. Multivariate regression indicated that participants in the intervention group were 10% more likely to have had a job following the programme compared to the comparison group ($p < 0.05$) (HRDC 2001). The second study evaluated two smaller programmes under the *Labour Market Agreement for People with Disabilities* (LMAPD), which aims to help people with disabilities become job-ready by increasing their employability by providing labour market programmes and services jointly funded by federal and provincial/territorial governments. The evaluation involved a telephone survey asking recipients how many months they were employed in the 12 months before the intervention and in the 12 months after the intervention. In one programme the average number of months employed before the programme was 1.87, this increased to 3.15 in the 12 months following the programme (not significant). In the second programme people were employed on average 1.99 months before the programme and this increased to 3.07 in the 12 months after (not significant) (Cross Gilroy Inc. 2007)

Danish legislation in 2005 placed a statutory duty on municipalities to initiate *Case Management Interviews* (CMI) for individuals who had been sick-listed for eight weeks. Some were carrying out CMI before, but the legislation made it mandatory. A comparison of two surveys from 2002 and 2006 indicated that the use of CMI with the long-term sick-listed increased significantly over that period (Høgelund *et al* 2008). The proportion of sick listed receiving at least one CMI increased from 39% to 52% and the proportion having a follow-up plan made for their return to work increased from 33% to 58%. The number of persons indicating the positive role of the CMI for returning to work also increased. The proportion answering that they evaluated the efforts made by the local authority as “good” or “very good” increased from 43% in 2002 to 56% in 2006. A Danish longitudinal observational econometric study of 1685 long term sick persons 2001-02 (Høgelund & Holm 2006a) analyzed the impact of CMI on return to work. Using a competing hazard rate model, and adjusting for selection effects and other confounders, they found that the CMI had no effect of CMIs on return to work with a new employer (Hazard Rate – 0.665 (standard error 1.697)), but a positive effect (2.842 (1.094)) on return to work with the pre-sickness employer.

UK evaluations of interventions that employ case management approaches found positive employment outcomes, although these were not statistically significant in the case of the ONE Advisory Service, where both the intervention and comparison

groups experienced a 5% increase in employment (Green *et al* 2003, Kirby & Riley 2003, 2004). Controlled cohort studies of the *New Deal for Disabled People* and *Pathways to Work* Pilots in the UK report higher rates of employment post-intervention for the intervention groups of between 7% and 11%, $p < 0.05$ (Orr *et al* 2007), and 7.4%, $p < 0.09$ and 9.4%, $p < 0.05$ (Bewley *et al* 2007, Adam *et al* 2006) respectively. Problems of selection bias, due to the *New Deal* being voluntary and the *Pathways* pilots only including new claimants, were not adequately accounted for in these studies, which mean these results must be interpreted with caution. The qualitative and mixed method studies of the *New Deal* and *Pathways* pilots provide a mixed picture of both interventions (Dixon *et al* 2007, Barnes & Hudson 2006a, Corden & Nice 2006a, 2006b, Davies *et al* 2006, Pires *et al* 2006, Aston *et al* 2005, 2003, Corden *et al* 2005, Kazimirski *et al* 2005, Knight *et al* 2005, Lewis *et al* 2005, Adelman *et al* 2004, Dickens *et al* 2004b, 2004b, Ashworth *et al* 2003, Corden *et al* 2003 Woodward *et al* 2003, Heenan 2002, 2003, Hills *et al* 2001 Loudmis *et al* 2001). The building of supportive and trusting relationships between claimants and case managers was reported as key to successful outcomes across a number of these studies, as these overcame claimants concerns and helped build their confidence about potentially returning to work. Several of these studies reported that there was some degree of selection of job-ready clients (those with less need for employment programmes) into the programmes, particularly with private and voluntary sector providers.

G. Education, vocational training, and work trial

Education, vocational training and work placement schemes have been introduced with the aim of increasing employment opportunities for people with disabilities and chronic illnesses through improving their skills and training or to retrain them for a job more suitable to their changed situation. Our searches located thirteen relevant studies across all five countries (78-91) and we also include four UK studies (92-95) from our previous review (Bambra *et al* 2005).

The studies used cross-sectional surveys combined with administrative data to compare employment outcomes for Canadian workers who had suffered an occupational injury and had experienced vocational rehabilitation (Allingham & Hyatt 1995, HRDC 1996, SDC 2004). Allingham and Hyatt (1995) used a survey of injured workers who had made claims for permanent disabilities from the *Ontario Workers Compensation* board. It compared people who had received vocational rehabilitation (VR) with those who had not, and assessed whether people returned to work following their injury. They found that people who received VR were 68% less likely to have returned to work. They conclude that this was because people who were selected for VR were likely to be those with greater barriers to employment. Two other studies evaluated the vocational rehabilitation programme of the *Canadian Pension Plan*. This programme is targeted at people who are not working and in receipt of the CPP disability component. These studies compared the level of employment in the intervention group, following the VR programme, with control groups. After controlling for confounders in a multivariate analysis one study found that likelihood of being employed was 6% higher in the intervention group than in the control group ($p = 0.011$) (HRDC 1996), whilst in the other study the likelihood of being employed was 15.3% higher ($p > 0.05 < 0.1$) (SDC 2004). The authors did not adjust for selection into the programmes, and it is highly likely that there was a selection effect due to the nature of recruitment into the programme. A Canadian

study using a small comparison group (Bozzer *et al* n.d.) found a 22% return to work rate six months after vocational rehabilitation amongst the 60 people in the intervention group, while employment declined in the control group. The control group only consisted of 18 people who were on the waiting list for the intervention, however, which prevented the drawing of conclusions about impact of the intervention.

Studies using panel data on 1,063 long-term, sick-listed Danish employees found mixed employment effects of educational rehabilitation measures (Høgelund & Holm 2002). Starting on an educational programme had, as expected, a weak not-significant “locking-in” effect, reducing the hazard rate of returning to the previous employer (HR (SD)= -0.273 (0.632), while finishing the educational programme had a weak positive effect (0.461 (0.747)). The pattern for returning to work with a new employer was similar but more pronounced: with a hazard rate for starting on an educational programme being significantly negative (- 2.320 (0,735) and finishing the programme significantly positive (2.623 (0.740)). The sum of the two effects was in both cases slightly positive. The authors noted that selection of the healthiest and previously best educated into educational measures (‘cream skinning’) undermined the policy’s aim of helping the sick-listed with low employability into work.

Another Danish study by the same authors on 671 long-term sick-listed people tested whether the effect of educational measures was different depending on whether the person returned to a better paid or lower/equally paid job after vocational rehabilitation (Høgelund and Holm 2006b). They found a positive and significant employment effect for those who had completed an educational measure returning to work with the same or lower wage (Hazard rate 1.105 (0.296) but weak and not-significant effect for those returning to better paid job (0.234 (0.397)).

Three Norwegian econometric studies estimating the employment effects of vocational rehabilitation programmes focused on education found both positive and negative employment outcomes (average increase in employment treatment vs. comparison group 6.3% , 1.5 - 2.4% and -11% respectively, $p < 0.05$) (Aavik 2001, 2003, Aavik *et al* 2005). Importantly, all three studies found evidence of selection into the programmes on the basis of observed and unobserved characteristics associated with better labour market outcomes (‘cream skinning’), so that those least likely to benefit from the programme (i.e. those most likely to be employed without additional training/education) were most likely to participate in it.

An econometric analysis of Swedish extensive administrative data compared the employment impact of six different types of “vocational rehabilitation”: workplace rehabilitation (vocation work training at the current or new workplace); educational rehabilitation (educational training towards a new occupation); medical rehabilitation and social rehabilitation ((to restore health and basic work capacity); passive rehabilitation (comprises all kinds of assessments and rehabilitation needs evaluations) and; finally, no rehabilitation (Frolich *et al*, 2004). The study was based on five counties in Western Sweden with 67 local insurance offices and a total of 10,309 documented long-term sickness cases. A sub-sample of 6287 cases was selected, of whom 3087 had received some form of vocational rehabilitation. The results show that workplace training was superior to the other rehabilitation programmes in terms of re-employment chances, but compared to non-participation in

rehabilitation, no positive effects were found. In other words, no rehabilitation was superior to all other programmes: passive, educational and medical rehabilitation reduced re-employment chances by about 12, 19 and 8 percentage points respectively compared to no rehabilitation. Similarly, educational rehabilitation worsened re-employment chances by more than 10 percentage points compared to workplace, medical and social rehabilitation. This study is particularly informative as it has a rich set of socioeconomic and employment history data on each individual. From these it is clear that some of the seemingly negative effects of the rehabilitation programmes are artefacts of the fact that the registered sickness spell was prolonged while the participant completed the rehabilitation. Additional sub-group analyses reveal that the negative effects of passive, medical and workplace rehabilitation relative to no rehabilitation were largely attributable to this prolongation of registered sickness due to the process of rehabilitation. In contrast, the negative effects of the educational rehabilitation appeared to be real and were directly attributable to a deterioration of immediate employment chances because of the rehabilitation. The authors conclude that this negative effect may be caused in part by reduced job-search activity. It seems that stigma may also play a part: the pool of participants in educational rehabilitation contains a large proportion of cases with high previous sick-leave and other previous vocational rehabilitation attempts. “As these persons are more likely to become sick repeatedly in the future, a potential employer will be reluctant to employ a person from the group of participants in educational rehabilitation.” (Frolich *et al*, 2004: 392).

Using a cross-sectional survey with follow-up, Ahlgren & Hammarstrom (1999) found no evidence of increased return to work rates among 266 people aged 16-30 in one Swedish county who had undergone some form of vocational rehabilitation between 1990 and 1994. An econometric analysis of administrative data of long-term sick-listed cases found an 8% increase in the return to work rates of those who had undergone some form of vocational rehabilitation (Lindwall 2006). In a Swedish matched case study, Salander *et al* (1999) examined the effect of vocational rehabilitation on later sick leave for employed and unemployed people on long-term sick. The hypotheses were (1) that people who underwent rehabilitation, both employed and unemployed, would have less subsequent sick leave than those who did not, and (2) that rehabilitation would affect employed people more than unemployed people. These hypotheses were only partially supported. The results indicated that vocational rehabilitation had a positive effect on later sick leave only for unemployed men. For unemployed women the effect was negative and for those employed, both men and women, rehabilitation had no demonstrable effect.

Two case study evaluations of 11 UK *Residential Training* centres (Maton *et al* 2000, Griffiths *et al* 2007), found positive employment effects, in that 50% and 40% of former trainees respectively had found work after training. Declining employment rates for trainees were perceived by staff to result from trainees having increasingly severe and complex barriers to work. Those with less time out of work before the intervention and those with mild to moderate health conditions were found to benefit most. Two uncontrolled mixed method studies of the UK *Work Preparation* programme provide a mixed picture of employment outcomes. Riddell *et al* 2002 found 20.8% of trainees were in employment and 24% in education or training post-intervention, while those with mental health conditions were less likely to participate and to gain employment after participation. Banks *et al* (2002) reported that 18.5% of

trainees were in employment and 12.3% were in education or training post-intervention, with no significant differences by health condition.

H. Medical rehabilitation and health condition management

Another strategy for getting chronically ill and disabled people back into work is to attend to their particular health problem: to improve the condition or prevent a decline. Medical rehabilitation may widen the range of jobs and work environments that disabled people are able to participate in. The Nordic countries have taken the lead in experimenting with such strategies, and the UK is beginning to take more interest in this approach as well. A total of ten studies (43-47, 75, 96-99) were included on this type of intervention from Norway, Sweden and the UK.

A Norwegian randomised controlled trial of 654 long-term sick-listed individuals with musculoskeletal diagnoses (Haland Haldorsen *et al* (2002) categorised patients into three groups differing in prognosis score (poor, medium and good) based on a brief screening instrument. They were then randomly assigned to one of three treatment programmes with different levels of intensity (ordinary rehabilitation, light multidisciplinary, and extensive multidisciplinary rehabilitation). Return-to-work data were collected in 14 months of follow-up from the national sickness insurance records (thereby avoiding problems with sample attrition that many randomised follow-up studies in this field suffer from). Patients who entered the rehabilitation programme with good prognosis for return to work did equally well with ordinary treatment as with the two more intensive treatments. Patients with medium prognosis benefited equally from the two multidisciplinary treatments. Patients with poor prognosis for return to work receiving extensive multidisciplinary treatment returned to work at a higher rate than patients with poor prognosis receiving ordinary treatment, 55 vs. 37%, ($p<0.05$) after 14 months. The authors conclude that multidisciplinary treatment was effective concerning return to work, when given to patients who were most likely to benefit from that treatment, and the simple screening instrument may be a useful clinical tool for allocating patients with musculoskeletal pain to the right level of treatment. Self-selection into the study was an issue, as only 33% of those invited agreed to participate in the study. The non-participants were more similar to the participants with good prognosis for return to work. From this and other comparisons, the authors inferred that non-participants were, on average, healthier than those who volunteered to participate in the RCT. Self-selection may therefore not be a major problem in this study, the authors reasoned, as those who dropped out of participation had characteristics that were similar to those who do not benefit from the treatment.

A Swedish randomized controlled trial of 214 long-term sick-listed employees with back pain evaluated the long-term outcome of a behavioural medicine rehabilitation programme and the outcome of its two main components, compared to a 'treatment-as-usual' control group, during a three year follow-up period (Jensen *et al* 2001, 2005). Subjects were randomised to one of four conditions: behaviour-oriented physiotherapy (PT), cognitive behavioural therapy (CBT), behavioural medicine rehabilitation consisting of PT+CBT (BM) and the control group (CG). The consistent results showed that the full-time BM programme was superior to the three other conditions in reducing subsequent sick leave. The strongest effect was found for women. The mean difference in the per-protocol analysis between the BM programme and the control group was 201 days, thus reducing sick leave by about

two-thirds of a working year. The conclusion from a cost-effectiveness analysis on these findings was that a full-time behavioural medicine programme is a cost-effective method for improving health and increasing return to work in women working in blue-collar or service/care occupations and suffering from back/neck pain. This is an important finding in terms of identifying an intervention that is effective specifically for less-skilled socioeconomic groups.

In the UK, the *Condition Management Programme* (CMP), part of the *Pathways to Work* pilots, is a short-term health management programme focused on improving mental health, cardio-vascular and musculoskeletal problems. Our searches found seven qualitative studies that examined experiences of the *Condition Management Programme* (Barnes & Hudson 2006a, Corden *et al* 2005, Corden & Nice 2006b, 2006c, Dickens *et al* 2004a, Knight *et al* 2005 and Dixon *et al* 2007). All seven studies reported that clients and CMP staff held positive views on the potentially beneficial health and employment effects of the *Programme*. It was perceived as moving clients toward, if not directly into, work, through building their confidence, improving their self-esteem, giving them an improved outlook on life and work, as well as providing practical means of coping with their health conditions on a day-to-day basis. Those not making progress were perceived as having more complex personal problems requiring more specialist and long-term assistance.

5. 3.3. Lessons from the review of focused interventions

Key conclusions include:

- There is a big gap between the large volume of interventions that we identified in our policy review and the small volume of evaluations carried out on such interventions. There is need for more and better assessment studies.
- Randomised Controlled Trials were rare (5 out of 86), and only a quarter of the remaining studies had some form of comparison group (21 of the remaining 81). Qualitative studies proved invaluable for understanding what the difficulties might be with the implementation of some of the interventions. The majority of studies were identified from the grey literature, in particular from governmental and organisation websites in the national languages of the countries. This highlights the importance of comprehensive, multi-faceted search strategies in this field of social welfare interventions.
- Some interventions produced promising results in terms of improved employment chances. *Resting disability pension* was a notable example from Sweden, where people who had been retired on disability pension for several years were enabled to return to work. It is important to understand fully the conditions in which successful interventions take place.
- There is a danger of the results of evaluations being misleading due to biased selection of participants into the interventions (even if an evaluation is based on a controlled trial, the researchers rarely have influence over selection into the intervention programme itself). Some interventions selected the easier cases (cream-skimming) – by, for example, identifying people who were more work-ready, so that they could achieve positive results in terms of employment

uptake. Conversely, others were focussed on the hardest cases, seen as in greatest need of the service. Individuals may, for example, have been out of work for several years, or have mental health diagnoses, both of which reduce the chances of re-employment, thereby producing disappointing results. This emphasises the importance of always considering selection into interventions when interpreting results.

- Some interventions may show no effect because the problem that they were designed to solve is not the main sticking point for return to work. The findings of no impact (or even a worsening of the situation) of the Disability Discrimination Act (DDA) in the UK reported in Section 5.3.1 illustrate the point. The finding of a lack of impact at the population level could be due to several contrasting possibilities, including:
 - Discrimination against disabled people by employers is uncommon and not the main barrier that disabled people face in trying to get a job – in which case the programme logic for the intervention was faulty in the first place.
 - The legislation is too cumbersome a tool to tackle the problem. Only a few cases of blatant discrimination that can be taken to court will be prevented by this means and will thus not show up as an impact when measured at the population level.
 - The DDA may be having an effect but in the wrong direction – it may be causing more employers to hesitate about hiring disabled workers for fear of being sued if they do not fulfil all the legal requirements for the worker once in their employ (there is some evidence from qualitative studies that this factor may have played a part in employers' decisions in relation to such legislation).

At a strategic level, this highlights the need to consider the strength of the evidence for how the problem was defined, and the plausibility of the programme logic of the intervention designed to solve the defined problem – as outlined in the typology.

- Some interventions were taken up or offered to those for whom they were least intended, crowding out the intended target participants (also referred to as 'deadweight loss'). It is essential to consider what the underlying objectives of an intervention are and to judge the programme against those objectives. There is a suggestion that this is what is happening with Danish *flexjobs*, which might increasingly have been assigned to those with no reduction in work ability who might otherwise have obtained a job without the scheme.
- Some evaluations may measure outcomes too soon or inappropriately. This was a potential danger with some of the evaluations of vocational rehabilitation, where the time spent on the rehabilitation programme meant that any possible uptake of employment was delayed until they finished the programme. In one of the studies, it erroneously looked as though vocational rehabilitation participants had more days sick than non-participants. That was an artefact of the scheme recording participants as on "sick leave" when undertaking the rehabilitation programme.

- Some interventions may actually be counterproductive, which highlights the necessity of evaluating all initiatives for harmful effects. The starkest example of this was in the Swedish study of different forms of rehabilitation, when being a participant of educational rehabilitation worsened chances of re-employment compared with no rehabilitation. The result was thought to be due to this particular option being a last resort, where individuals who had a bad sickness record and had been through other forms of vocational rehabilitation without success ended up before receiving disability pension. In such situations, there is a selection effect, but the possibility was also raised of stigma being attached to educational rehabilitation that causes employers to avoid participants in it.
- Some interventions had very low uptake or population coverage, so they could not be expected to have a measurable effect when assessed at the population level. The Norwegian *Active Sick Leave* Scheme, for example, in theory has potential for improving return-to-work, but in practice had only been taken up by 0.1% of eligible people. Low uptake or awareness of interventions, particularly financial incentives, is a common theme across the five countries.
- The effectiveness of some interventions may have been compromised by the low level of resources to support them. Earlier experiments in the UK to offer financial incentives to employers to take on disabled workers, for example, appear to have been at too low a level to act as a realistic incentive. The Danish *flexjob* scheme, on the other hand, offered support in the region of 50-65% of the employee's salary. Employment in *flexjobs* has increased dramatically since the introduction of the scheme: from 6700 in 1999 to 40,600 in 2006 (though not without its critics, see bullet point 5 above).
- Last, but not least, very few studies investigated whether there was a differential impact of the interventions for different socio-economic groups in the population. As the development of ways of tackling social inequalities in health is a priority, it is essential for effectiveness studies to monitor differential impact. Some of the studies in this review that did do that found that specific interventions were less accessible to less skilled groups, who would need additional support to help them return to work. The exceptions included one Swedish study of behavioural medicine rehabilitation, which found that the full-time behavioural medicine programme was a cost-effective method of improving health and return to work for women from less-skilled and manual occupations.

6. Contribution to Consortium Themes

This project contributes to four Consortium themes: the Work environment, and three cross-cutting themes of Health inequalities, Translation to policy, and Methodological development.

7. Conclusions/considerations

7.1. The project's contribution to knowledge

The project set out with a challenging set of objectives in a complex field. This project has added to knowledge in five main areas:

It has mapped the range and types of policies and interventions that have been implemented in Canada, Denmark, Norway, Sweden and the UK that may influence employment chances for chronically ill and disabled people. By doing so it has added to understanding about what has actually been tried in each country and what might be considered for others.

It has refined a typology of the focussed interventions that have been identified, based on the underlying programme logic of the intervention, that aids strategic thinking about national efforts to help chronically ill and disabled people into work.

It has produced systematic reviews of the impact of the focussed interventions on the employment chances of chronically ill and disabled people and demonstrated the use of the typology in helping to interpret the results of the evaluations.

The project's empirical analyses of individual-level data have identified how chronically ill people from different socio-economic groups have fared in the labour markets of the five countries over the past two decades. It has then tested these findings against hypotheses about the impact of macro-level labour market policies on chronically ill people to provide insights into the influence of the policy context.

During the process of the research, the project has contributed to methodological development in evidence synthesis and the evaluation of natural policy experiments. There is much more to be done to develop the methods further and apply them to the pressing questions on the issue of employment and health.

7.2. The added value of international collaboration

By studying a small number of countries in great depth, we gained greater understanding of the policies and interventions that have been tried in these countries to help chronically ill and disabled people into work, against the backdrop of the wider labour market and macro-economic trends in those countries. We then integrated evidence from the wider policy context into the findings of systematic reviews of effectiveness of interventions, to advance interpretation of the natural policy experiments that have been implemented in these countries. The depth of understanding required about the subtleties of the policies and interventions in each country could not have been achieved by the UK team working in isolation. It was essential to have collaborators in each of the study countries and the project was very fortunate in gaining the participation of the first class teams in the five countries - and at their own expense.

The issue of gaining funding for the sort of international studies that are required in this field is difficult, though, and is a barrier to this kind of work. For this project, there was a juggling act to put in proposals to various bodies simultaneously. Our *Norwegian* collaborators submitted a proposal to their National Research Council, which included the Norwegian component of this project. This was subsequently

successful in gaining funding. The *Danish* collaborators participated partly through basic institutional funding and partly through an application to the Ministry of Employment. *Swedish* collaborators at the Karolinska Institute had some funding already for the empirical analysis of the Stockholm datasets and ULF. In a complementary initiative, the Swedish Ministry of Health and Social Welfare agreed to fund the policy analysis of *Nordic countries* as a contribution to the efforts of the Global Commission on Social Determinants of Health. Our *Canadian* collaborator, Dr Edward Ng successfully argued the case to undertake the Canadian analyses as part of his responsibilities with Statistics Canada. In the original proposal, we had Finnish collaborators who were keen to participate and we intended that Finland would be the sixth country in the comparison. A funding application in Finland, however, failed, and our Finnish colleagues could not in the end participate. This is a recurring issue for this type of research and one that would benefit from further consideration by research funders.

7.3 Outcome of pilot attachment of Public Health Specialist Trainees

A fourth objective of the project was a generic capacity building objective for the Consortium as a whole. This project offered to pilot an NHS Specialist Public Health Training Scheme placement with a view to extending opportunities in other Consortium projects if successful. We were fortunate in recruiting two North West Specialist Registrars to the placement, Ben Barr and Rachael Gosling, on a job-share basis. The trainees have participated as members of the research team for over 12 months and have been real assets to the project. They have participated fully in the wider Consortium meetings as well. They devised their own evaluation of the placement with their own training needs in mind, and a summary of the completed evaluation by Ben Barr is provided in appendix 1. From this, there is clear evidence of benefit for both trainee and project and provides grounds for extending the scheme to other projects within the Consortium.

7.4 Further research

There are both immediate and longer term implications for further research stemming from the project. First, collaborators in all five countries are planning to go deeper into what is happening to chronically ill and disabled people in their own countries over periods of changing macro-economic conditions. The impending recession in all the countries concerned makes it more pressing to monitor the employment and health outcomes for vulnerable groups during difficult times.

Secondly, specific studies have been triggered from the dissemination of the project findings. Further Danish studies, for example, have been stimulated in this way. Flexible rules of employment, active labour market policies with the right and duty to training and job offers and relatively high benefits, characterize Danish Policy. The Danish labour market is as flexible as the British, while at the same time offering employees the same level of security as the Swedish. The Danish labour market has the same high level of mobility among employees between employers as UK. According to OECD figures mobility in Denmark and UK is approximately 40% higher than the EU-average. It is therefore a concern among Danish politicians what the public health impact of the high mobility might be. Is the high mobility introducing a higher level of social stress due to the many workplace shifts and life changes it involves? Does a flexible labour market mean that employees after a period of temporary or more permanent sickness and reduced

work ability have better possibilities of returning to a work where demands are better adapted to the changed work ability? Or will it increase the risk of being sorted out and excluded from the workforce in the process of applying and complying with new jobs? These questions will be addressed in a major longitudinal study, thanks to a grant from the Danish Ministry of Employment to Prof Diderichsen's group at the University of Copenhagen. It will be based on the unique Danish longitudinal registers linking data on education, employment, job-mobility, income sources from employment and transfers with medical data from hospitals and pharmaceutical drug-prescriptions.

Third, there is a need for further research in this field to assess differential impact of policies and interventions on different groups in the population. This is still a glaring gap in the evidence base, as the reviews in this project illustrated. It is a gap that urgently needs to be filled.

8. Dissemination/outputs

As with all Consortium projects, output will include electronic summaries of findings, and their policy and practice relevance, to be disseminated via consortium-level communication channels. These channels include both the PHRC website and dissemination to policy and practice communities led by the Centre for Reviews and Dissemination and the Yorkshire and Humberside Public Health Observatory.

Dissemination of results in a series of peer reviewed journal papers is planned, with submission awaiting approval of this final project report. The following dissemination through other channels has taken place to date:

Chapter in book

Dahl, E. and Lorentzen, T. (2008) Norway: *Social Security, Active Labour Market Policies and Economic Progress*. In Midgley and Tang (eds): *Social Security, the Economy and Development*. Basingstoke: Palgrave.

Presentations:

In 2008

Poster presentations

Edward Ng (Statistics Canada) and Sharanjit Uppal (Statistics Canada), and Wen-Hao Chen (Statistics Canada). *Disability and Employment: A View from the 1986, 1991 and 2001 Canadian Census*. Poster presentation. 4 June 2008, Canadian Population Society 2008 Annual Meeting, University of British Columbia, Vancouver.

Lotta Nylén and Bo Burström, Karolinska Institutet, Stockholm, Sweden, Olle Lundberg, CHES, Centre for health equity studies, Stockholm University / Karolinska Institutet, Sweden. Poster presentation. *Chronic illness and exclusion from the Swedish labour market 1978-2005*. 16th European Conference on Public Health, organized by the European Public Health Association, Lisbon, Portugal, 6-8 November 2008.

Invited oral presentations

Espen Dahl *The Nordic welfare model: Is it possible to reconcile welfare and work?* Conference: "Policy of energy and social welfare in the Baltic Sea region

- what are the options?" Oslo University College, Oslo, February 7th, 2008

Espen Dahl *Sosial ulikhet i helse i Norge og utvikling i politikken*. SHDir's oppstartseminar "Fra melding til handling", Talk for The Directorate of Health and Social Affairs, Oslo, February 27, 2008

Espen Dahl *Sosial ulikhet i helseforskning og politikk*. Talk for The Directorate of Health and Social Affairs. SHDir's lederseminar, Lørenskog/Losby, April 22, 2008

Statistics Canada Socioeconomic Conference 2008, Ottawa, Canada, 5th May 2008.

Themed workshop on PHRC project consisting of three oral presentations:

a) *Welfare to work for the chronically ill and disabled – what works? Evidence from UK and Canada*. Stephen Clayton, Ben Barr, Rachael Gosling, Sue Povall, Paula Holland, Kate Misso, Margaret Whitehead. Presenter; Ben Barr.

b) *Disability and Employment: a view from the 1986, 1991 and 2001 Canadian Census*. Edward Ng (Statistics Canada) and Sharanjit Uppal (Statistics Canada), and Wen-Hao Chen (Statistics Canada). Presenter: Edward Ng.

c) *Gender and social inequalities in the employment of chronically ill or disabled people: evidence from the UK*. Paula Holland, Margaret Whitehead, Stephen Clayton, Frances Drever. Presenter: Ben Barr.

Espen Dahl *Sosiale ulikheter i helse. Hvilke utfordringer står vi overfor?* Seminar: Høstseminaret. Norsk Forening for Ernæringsfysiologer og Norsk Selskap for Ernæring. Oslo October 17, 2008

9th December 2008: Key findings from the project were presented by Prof. Finn Diderichsen to senior civil servants from the Danish Ministry of Employment, Copenhagen, Dec 9. 2008. As a result of this, Professor Diderichsen has been commissioned by the Ministry to carry out additional analyses on mobility and its effects on the chronically ill and disabled workers in Denmark (see section 7.3).

In 2009

Espen Dahl *Social inequality, health and labour market participation*. Talk for the Norwegian Research Council, The Public Health Programme, February 11th 2009

Margaret Whitehead: *Keynote speech* Campbell Collaboration Colloquium "Better evidence for a better world". 18-20 May 2009, Oslo.

Plus: 3 oral papers in special session on return-to-work studies by Project partners, Campbell C Collaboration Colloquium "Better evidence for a better world". 18-20 May 2009, Oslo.

Margaret Whitehead: keynote speech to the 9th International Work Congress, November 9-11, 2009, in Toronto.

Dissemination to WHO:

Our collaborators in the Nordic countries have responded to the needs of the WHO Global Commission on Social Determinants of Health, by carrying out policy analyses of the way in which their welfare systems operate to support work and health.

Continual dissemination to members of the European Region of WHO through the activities of the WHO Collaborating Centre for Policy Research on Social Determinants of Health, directed by the PI, Margaret Whitehead

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Appendices

Appendix 1: Summary of Evaluation of Public Health Research Consortium Attachment for Northwest Public Health Trainees- Liverpool University

Current Progress with the attachment

In October 2007, two public health specialist trainees (SPTs) began a one year attachment to the programme, based at the University of Liverpool. The two trainees are working part-time to make up a whole time equivalent attachment. One of the trainees (Rachael Gosling) was working part time (3 days a week) until she commenced maternity leave on 10/4/2008 and will return to the programme in April 2009 for six months. The other trainee (Ben Barr) has been working 2 days a week and has extended his placement to continue part time until October 2009. Ben Barr has also been working at Cumbria PCT for 3 days per week during this time. Their main area of work has been on the following project: 'Helping chronically ill or disabled people into work: what can we learn from international comparative analyses?'. A significant proportion of their time has also been spent on work relating to Liverpool University's role as the WHO Collaborating Centre for Policy Research on Social Determinants of Health. This has specifically included contributing to an expert meeting on "Marshalling the evidence for health inequalities" in Liverpool in October 2007 and a WHO technical consultation on Poverty and Health in Venice during 2008(Follow-up to Resolution EUR/RC52/R7).

A summary of the results of the evaluation relating to one of the trainees (Ben Barr) is given below. This has been limited to work related to the PHRC program.

Evaluation questions

The training location

The training location has provided the minimum requirements as laid out in the North West Training policy. This has included suitable office facilities, adequate secretarial support, and good library access. A project supervisor (Margaret Whitehead) has provided ongoing supervision with a Faculty Accredited Trainer (Nigel Bruce) providing overall support in line with the faculty requirements.

Supervision

Nine supervisory meetings with MW and 2 with NB, have taken place during the year. During these meetings it was possible to identify areas for the development of skills and competencies for the trainee and match these up with the PHRC work programme. It was possible to set objectives which were then assessed at the end of the year in a review meeting with MW and NB. It was possible to raise any problems or difficulties both in terms of the work programme and the wider training programme, at these meetings.

Outcomes

Were the objectives of the trainees met during their one year placement? This refers to the trainees' learning objectives as set out in the RITA portfolio (in other words, RITA competencies).

8 out of 10 of the competencies identified in the original objectives were achieved during the first year of the placement. The competencies that were achieved are given below:

- 3.4 Demonstrate an understanding of different ways of assessing outcomes from a number of different perspectives, and recognise the role of measures of patient satisfaction, qualitative outcomes, patient acceptability and quality of life as key outcomes for health interventions.
- 3.6 Appraise the evidence for the effectiveness of different health promotion programmes, understanding the need for a range of appropriate outcome measures.
- 3.3 Examine evidence of effectiveness for a specific intervention, e.g. drug, surgical procedure.
- 3.1 Critically appraise the quality of primary research. Be familiar with the hierarchy of evidence and be able to grade research, understand strengths and limitations of different approaches.
- 6.7 Understand threats to health; communicate these to as wide an audience as possible and exploit opportunities to address them.
- 8.8 Demonstrate understanding of the essential role and the application of different types of leadership.
- 5.8 Demonstrate an up-to-date knowledge of health issues and developments in clinical practice and awareness of broader policy developments that may impact on the health of the public
- 6.1 Understand the importance and impact of public policy and legislation on health at local, national and global levels.
- 6.8 Be able to lead the collation and interpretation of advice from clinical colleagues to inform policy

What additional experiences and skills were gained that cannot be measured by RITA competencies?

The additional skills and experience resulting from being involved in an international research collaborative far exceeded that which could be measured through the RITA competencies system. These included:

- Extensive knowledge gained on employment and health related research
- Understanding of new conceptual approaches, relating to the mechanisms resulting in health inequalities
- Introduction to new epidemiological methods- interaction analysis.
- Diplomatic and leadership skills
- Communicating and marshalling arguments from research with policy makers.

What knowledge, skills and experience have the trainees developed in this placement that they have applied in other work carried out for the NHS?

The major benefit of the programme has been in the synergy resulting from combined academic and NHS placements. Gaining an extensive knowledge of the research relating to employment and health and developing skills in presenting these arguments in the academic field, has meant that the case for service development could be more

convincingly articulated within the NHS. Within Cumbria PCT, evidence based interventions are now being introduced to improve the employment prospects of people with chronic illness, lead by the trainee. This is partly as a result of the trainee's involvement in the PHRC programme.

How did the PHRC and more specifically the Liverpool PHRC project gain from having the trainees attached?

The PHRC has gained extensively from the involvement of the Trainee. This has included

- A descriptive analysis of the policies and interventions implemented in Canada to help people with disabilities into employment
- Review of evaluations in Canada of interventions to help people with disabilities into employment
- Write up of paper covering the Canadian and UK aspects of the systematic review.
- Presentation of two papers at Socioeconomic Conference in Ottawa, Canada in May 2008
- Systematic Review of research assessing the impact of the level and eligibility of benefits on Employment from 5 countries
- Advice and development of research papers for the project
- Reviewing drafts of papers

Were there any other unforeseen benefits or problems experienced by a) trainees b) PHRC team that are noteworthy?

The project has enabled the trainee to clarify his career plans with respect to academic research. As a result of his involvement in this programme he is applying for a research fellowship for a PHD which further develops research issues that have been identified through the PHRC programme at Liverpool University.

Ben Barr, Public Health Specialist Trainee, November 2008

Appendix 2: Datasets and variables

Datasets

Each country dataset was chosen for its detailed *individual-level data* on participation in the labour market, health status and socio-economic circumstances. In each country, analyses were based on men and women aged 25-59 years. For each dataset, the number of men and women within this age range who had complete data on their health, employment status and level of education is given in **Table 1**.

The UK data were drawn from the Labour Force Survey (LFS), a large-scale survey with 60,000 households taking part each quarter. The LFS is carried out under an EU directive and uses internationally agreed concepts and definitions which have stayed fairly constant in questions relating to health and economic activity. LFS data for the survey years 1984-85 to 2005-06 were aggregated to provide data for the following time periods: 1984-86, 1987-90, 1991-93, 1994-96, 1997-99, 2000-03, 2004-06.

Swedish analyses were based on the survey of living conditions: Undersökning av levnadsförhållanden, (ULF). This study resembles the British General Household Survey and was in fact modelled on the GHS. The survey started in 1975 and is carried out annually, initially with a sample of about 12,000 persons; more recently since the end of the 1980s reduced to about 6,000 persons. Response rates average around 80%. In the working age-range of 25-59 (equivalent to the range quoted for the British GHS), there are approximately 4,000 adults per year. Every 7-8 years the survey particularly emphasises health and health care utilisation, but there are questions on different aspects of living conditions (employment, family composition, economic activity, housing, income etc), limiting chronic illness and self-rated general health every year. From the analyses of trends, data from the ULF were aggregated into six time periods: 1978-90, 1991-93, 1994-96, 1997-99, 2000-02, 2003-05.

Norwegian analyses were based on Norwegian Survey of Living Conditions (Levekårsundersøkelsen). These studies have been carried out for the following years: 1973, 1980, 1983, 1987, 1991, and 1995. From 1996 these surveys have been carried out annually, and documented in annual reports. For the analyses of trends, data were aggregated to increase sample size in the following way: the 1980 and 1983 surveys, giving a sample size of 4,695 men and women aged 25-59; 1987 and 1991 surveys (n=4,521); 1995 and 1998 surveys (n=6,851); 2002 and 2005 surveys (n=8,590).

In Denmark, analyses were based on the Health and Morbidity Survey for the years 1994, 2000 and 2005 (*Sundheds- og sygelighedsundersøgelse*), similar to the Swedish ULF, but not annual. The sample for interviews has increased from n= 4,670 in 1994 to n= 21,800 in 2005, but the non-response rate has grown from 22% to 33.3%

The Canadian analyses were based on the population Censuses for the years 1986, 1991, 1996 and 2001. The Canadian data were drawn specifically from responses to the Census Long Form 2B, a detailed questionnaire administered to one-fifth of all private households in Canada (a shorter questionnaire is completed by the remainder of the population).

Health variables

In each dataset, individuals were defined as having limiting illness ('chronic illness') if they reported a longstanding health problem which restricted their work or daily activities. The survey questions about limiting illness in each country are listed in **Table A.2.1**. Individuals who reported a longstanding condition which *did not* restrict their work or daily activities were classified as being free from limiting illness (for brevity, referred to in this report as 'healthy').

Health questions were selected to make the definitions as comparable as possible, but differences in wording and potential differences in the concepts that the questions capture mean that complete comparability cannot be assumed. For three of the countries, Sweden, Denmark and Canada, the questions explicitly asked about *both* limitations/restrictions on work and on day-to-day activities. In Norway, the question was more general and asked about "affect on your daily life", though it did go on to give the prompt of "functional limitations". It is debatable whether this Norwegian question would capture as much limiting illness as the ones that gave the additional prompt relating to work as well as daily activity.

For the UK, we constructed Definition 1, which combined the three available questions on limitations caused by longstanding health problems, in an attempt to capture both work and daily activity restrictions. It therefore combined limitations on kind of work and/or amount of work and/or "normal day to day activities". The daily activity question in the LFS, however, is complex conceptually, and may be difficult for respondents to grasp, in that it asks respondents to consider: "If you are receiving medication or treatment, please consider what the situation would be without the medication or treatment." This makes this UK definition possibly the widest of them all, in that it may identify people who have no real, health-related limitation when on effective medication or treatment (e.g. restrictions). If this were the case, then it would weaken any association between limiting illness and employment and underestimate the impact of limiting illness.

UK Definition 2, on the other hand, may be the narrowest of all, in that it would only capture people with health-related restrictions on work and may miss those who perceive restrictions on their daily life outside work. This would have the effect of heightening the association between limiting illness and employment when compared with the other countries that use both work and daily life restrictions. To be cautious in our interpretations, therefore, we used the wider UK Definition 1 in the direct cross country comparisons, reasoning that if we see any UK effects they are more likely to be underestimates of the true situation, rather than overestimates. We used UK Definition 2 to study trends over time in the country, because we wanted to make comparisons about absolute levels of employment for different groups *within* the country (not across countries), and needed a variable that remained the same every year over two decades. All the cross-country comparisons in the trend analyses compare relative, not absolute, differentials in employment for different groups in the populations.

Employment variables

A five category classification was used:

- *employed*; those who receive money working for others or themselves (part-time or full-time);

- *ILO unemployed*: those without work who are currently available for work, and actively seeking work;
- *economically inactive*: – *long-term sick or disabled*;
- *economically inactive* – *looking after family/home*;
- *other economically inactive*.

As far as comparability is concerned, most of the analyses deal with the first category: whether people are employed or not. As such, this variable is likely to be clearer cut and reasonably comparable across the five countries. There is more scope for variability in the unemployed and economically inactive categories, because of different interpretations of the categories, though all are supposed to use the ILO unemployed definition. Employment rates were calculated according to the number of individuals aged 25-59 employed as a proportion of all individuals in this age group and age-standardised to the European Standard Population with 95% confidence intervals (CIs).

Educational level variables

In each dataset, educational level was grouped into three categories using the OECD ISCED-97 Classifying Educational Systems (OECD 1999): low education was defined as ISCED categories 0, 1 and 2 (pre-primary, primary and lower secondary schooling), intermediate education as ISCED categories 3 and 4 (upper secondary and post-secondary non-tertiary schooling), and high education as ISCED categories 5 and 6 (first and second stages of tertiary education). By using a common, accepted classification of education, produced by the OECD, we were attempting to make the social groups as comparable as possible across the five countries. All the countries differ considerably, however, in the number of years that students spend at school and in the qualifications that they can obtain. It therefore cannot be assumed that the educational categories are fully comparable across all five countries, but we are confident that they are as close as we could get with this material.

Regression analysis in Table 5.4

We conducted a linear regression analysis with non-employment as outcome on the pooled datasets including all five countries. We used linear regression since it can deliver absolute effects, which are the most policy relevant measures in this context. We tested for the single effects of limiting illness, education and country and the effects of the combinations: country + limiting illness and education + limiting illness on non-employment. Denmark was used as a reference in the analysis of country effects as it is in an intermediate position in terms of labour market policies. Table 5.4 presents regression coefficients and an "interaction" effect representing the excess risk due to interaction. This interaction effect estimates the excess risk compared to the sum of effects from the two main effects. For example, both education and limiting illness have an impact on the risk of not being employed. The interaction effect estimates how much higher that risk is for those with both limiting illness and low education, compared to the sum of the two single effects of low education and limiting illness. Estimates are presented with 95% confidence intervals. The effects of limiting illness and low education and their interaction has been estimated in an analysis stratified for sex and country. The "effect" of country and the interaction with limiting illness has been done on the pooled dataset with all five countries stratified for sex.

Table A2.1. Questions on limiting longstanding illness

Country and dataset	Wording of question on limiting longstanding illness
<p>Canada. <i>Census, 1986, 1991, 1996</i></p> <p><i>Census, 2001</i></p>	<ul style="list-style-type: none"> ➤ 1. Does this person have any long-term disabilities or handicaps? ❖ (Response: 'No'; 'Yes'). ➤ 2. Is this person limited in the kind of activity that he/she can do because of a long term physical condition, mental condition or health problem (a) at home? (b) at school or at work? (c) in other activities, for example, in transportation to or from work, or in leisure time activities? ❖ (Response: 'No, not limited'; 'Yes, limited'). ➤ 1. Does this person have any difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities? ❖ (Response: 'Yes, often'; 'Yes, sometimes'; 'No'). ➤ 2. Does a physical condition or mental problem or health problem reduce the amount or kind of activity this person can do: (a) at home? (b) at school or at work? (c) in other activities, for example, in transportation or leisure? ❖ (Response: 'Yes, often'; 'Yes, sometimes'; 'No'). <p>Individuals were classified as having a limiting longstanding illness if they responded affirmatively to <i>either</i> health question</p>
<p>Denmark. <i>Health and Morbidity Survey, 1994, 2000, 2005</i></p>	<ul style="list-style-type: none"> ➤ 1. Do you suffer from any longstanding illness, longstanding consequence of accident, a disability or other longstanding health related problem (of at least 6 months duration)? ❖ (Response: 'Yes'; 'No'). ➤ 2. (If yes:) Are you restricted because of illness in your work / daily activities? ❖ (Response: 'Yes, very much'; 'Yes, a little'; 'No'). <p>Respondents were classified as having a limiting longstanding illness if they responded affirmatively to <i>both</i> questions.</p>
<p>Norway. <i>Norwegian Survey of Living Conditions, 1980-1995</i></p> <p><i>Norwegian Survey of Living Conditions, 1998-2005</i></p>	<ul style="list-style-type: none"> ➤ 1. Do you have any disease or illness of a lasting nature, or illness as a consequence of injury or handicap? Please consider all such cases, also those you would consider to be of minor significance. ❖ (Response: 'Yes'; 'No'). ➤ 2. (If yes:) Does/do your illness/illnesses affect your work capacity? (employment, housework or schoolwork/studies). ❖ (Response: 'Great extent'; 'Some extent'; 'Not at all'). ➤ 1. Do you have any disease or illness of a lasting nature, congenital disease or chronic illness as a result of injury? By 'lasting nature' we mean disease or illness that has lasted for at least six months, or more recent disease or illness that one would expect to be long lasting. ❖ (Response: 'Yes'; 'No'). ➤ 2. (If yes:) We would like to know how you consider your diseases. To what extent do some of them affect your daily life? We have in mind all kinds of consequences: pain, anxiety, insomnia, tiredness or functional limitations. ❖ (Response: 'Not at all'; 'Minor extent'; 'Some extent'; 'Great extent'). <p>Respondents were classified as having a limiting longstanding illness if they responded affirmatively to the first question and answered 'to some extent' or 'to a great extent' to the second.</p>
<p>Sweden. <i>Survey of Living Conditions, 1978-2005</i></p>	<ul style="list-style-type: none"> ➤ 1. Do you suffer from any long-standing health problem (disability, injury, or disease)? ❖ (Response: 'Yes'; 'No'). ➤ 2. (If yes:) Does this long-standing health problem(s) restrict your work ability or daily activity? ❖ (Response: 'Yes, to a high degree'; 'Yes, to some extent'; 'No'). <p>Respondents were classified as having a limiting longstanding illness if they responded affirmatively to <i>both</i> questions,</p>

**UK DEFINITION 1
(limitations on work
and daily activities)**

*UK Labour Force
Survey, 1997-2006*

- 1. Do you have any health problems or disabilities that you expect will last for more than a year?
- ❖ (Response: 'Yes'; 'No').
- 2. Does this health problem affect the kind of paid work that you might do?
- ❖ (Response: 'Yes'; 'No').
- 3. Does this health problem affect the amount of paid work that you might do?
- ❖ (Response: 'Yes'; 'No').

- 4. Do these [specified from list] health problems or disabilities, when taken singly or together, substantially limit your ability to carry out normal day to day activities? If you are receiving medication or treatment, please consider what the situation would be without the medication or treatment.
- ❖ (Response: 'Yes'; 'No').

For UK Definition 1, respondents were classified as having a limiting longstanding illness if they responded affirmatively to question 1 AND q.2. and/or q.3 and/or q. 4.

**UK DEFINITION 2
(Limitations on work
only)**

*UK Labour Force
Survey, 1984-1988*

- 1. Do you have any of the health problems or disabilities listed on this card?
- ❖ (Card lists range of health problems. Response: 'Yes'; 'No').
- 2. Does this/do any of these health problems or disabilities limit the kind of paid work that you can do?
- ❖ (Response: 'Yes'; 'No').

*Labour Force Survey,
1989-1996*

-
- Do you have any health problems or disabilities which limit the kind of paid work that you can do?
- ❖ (Response: 'Yes'; 'No').

*Labour Force Survey,
1997-2006*

- 1. Do you have any health problems or disabilities that you expect will last for more than a year?
- ❖ (Response: 'Yes'; 'No').
- 2. Does this health problem affect the kind of paid work that you might do?
- ❖ (Response: 'Yes'; 'No').

For UK Definition 2, respondents were classified as having a limiting longstanding illness if they responded affirmatively to *both* questions,

In the Canadian Census individuals were classified as having a limiting longstanding illness if they responded affirmatively to *either* health question. In Denmark, Sweden and the UK respondents were classified as having a limiting longstanding illness if they responded affirmatively to *both* questions, and in Norway, if respondents responded affirmatively to the first question and answered 'to some extent' or 'to a great extent' to the second.

Appendix 3

Search strategy details (full details of search strategy available on request)

1. UK update electronic database search strategy

Searches were carried out to update a previous review by some of the authors (Bambra *et al* 2005). Databases were searched from 2002 to 2007 (see list below) and searches were limited to retrieve articles referring to the United Kingdom.

The following databases were searched:

- MEDLINE (2002-2007/02 week 3) (OVID)
- MEDLINE In-Process Citations (up to 6.3.07) (OVID)
- EMBASE (2002-2007/week 9) (OVID)
- Health Management Information Consortium (2002-2007/03) (OVID)
- International Bibliography of the Social Sciences (2002-2007/03 week 1) (OVID)
- PsycINFO(2002-2007/02 week 4) (OVID)
- EconLit (2002-2007/01) (OVID)
- Database of Abstracts of Reviews of Effects (DARE) (2002-2007/03/15) (internal CRD interface)
- Cochrane Database of Systematic Reviews (2002-2007 in Issue 1:2007) (internet)
- Cochrane Central Register of Controlled Trials (2002-2007 in Issue 1:2007) (internet)
- Social Science Citation Index (SCI) (2002-2007/03/11) (Web of Science)
- Applied Social Sciences Index and Abstracts (ASSIA) (2002-2007/04/04) (CSA Illumina)
- Social Services Abstracts (2002-2007/04/04) (CSA Illumina)
- Sociological Abstracts (2002-2007/04/04) (CSA Illumina)
- Social Care Online (2002-2007) (SCIE internet)
- Dissertation Abstracts (2005-2007/07/05) (Proquest)

A total of 1933 references were retrieved. After de-duplication the titles and abstracts of 1598 references were scanned for relevance.

2. International search strategy

The basic search strategy was employed and supplemented with search terms based on the names of known relevant national policies and interventions drawn up by colleagues in each of the partner countries. Databases were searched from inception and searches were limited to retrieve articles referring to specified countries (Canada, Scandinavia, Denmark, Norway and Sweden).

The following databases were searched:

- MEDLINE (1950-2007/05 week 1) (OVID)
- MEDLINE In-Process Citations (up to 15.5.07) (OVID)
- EMBASE (1980-2007/week 19) (OVID)
- Health Management Information Consortium (inception to 2007/05) (OVID)
- International Bibliography of the Social Sciences (1951-2007/05 week 1) (OVID)
- PsycINFO (1806-2007/05 week 2) (OVID)
- EconLit (1969-2007/04) (OVID)
- Database of Abstracts of Reviews of Effects (DARE) (inception to 2007/05/17) (internal CRD interface)

- Cochrane Database of Systematic Reviews (all dates in Issue 2:2007) (internet)
- Cochrane Central Register of Controlled Trials (all dates in Issue 2:2007) (internet)
- Social Science Citation Index (SCI) (1956-2007/05/20) (Web of Science)
- Applied Social Sciences Index and Abstracts (ASSIA) (1987-2007/05/24) (CSA Illumina)
- Social Services Abstracts (1979-2007/05/24) (CSA Illumina)
- Sociological Abstracts (1987-2007/05/24) (CSA Illumina)
- Social Care Online (inception to 2007/05/24) (SCIE internet)
- Dissertation Abstracts (2005-2007/07/05) (Proquest)

A total of 2189 references were retrieved. After de-duplication the titles and abstracts of 1483 references were scanned for relevance.

In addition, systematic grey literature searches were conducted through 111 relevant governmental and non-governmental websites by partners in the respective countries in their national language as well as in English. This produced a further 2948 potentially relevant references to be scanned for relevance. .

3. Swedish electronic database search strategy

The following electronic databases were searched for information between inception and 2007:

PubMed OVID 1966-2005

Caredata

Cochrane library

Cinahl

Sociological abstracts (KI)

Social services abstracts (KI)

Dissertation abstracts (KI)

Libris (Royal national library of Sweden)

Arblin

Ovid MEDLINE

Miks (KI)

The electronic database at the library in the National Institute for Working Life was hand searched for information. The library has a duty fixed by law to collect all material regarding working life in Sweden.

Search terms

Disabled or disabilit* or chronic ill* or chronic sick* or LLTI or longstanding illness or long-standing illness or long-term sick* or long-term ill* or permanent sickness.

Work*or job* or vocation* or labour or labor or unemploy* or employment.

Rehabilitat* or welfare-to-work or back-to-work or 'welfare-to-work' or return-to-work or training or retraining or skills or advice or counselling.

Disability benefit or disability pension or sick leave or early retirement or invalidity benefit or long term sickness benefit.

Employer subsidy or employer subsidies or wage subsidy or wage subsidies.

(Names of known major Swedish programmes)

Dagmar

Working life fund

Finsam

Socsam

Frisam

These search terms were combined with the search term 'Sweden' and the search terms were translated into Swedish wherever there was an equivalent word in Swedish.

Appendix 4: papers included in review – summary tables

Box A4: Critical Appraisal Criteria

The following criteria were used in the critical appraisal of the general design of all the included studies. The results of this process are presented in Tables A4.1–A4.8, with the numbers 1–9 representing satisfactory fulfilment of the corresponding criterion. For mixed methods studies, both sets of criteria have been applied to the different components of the study. Those studies in the tables that derive from our previous systematic review (Bambra *et al* (2005), had been appraised by the criteria presented in citation 100. The results of the appraisal were used for descriptive purposes only, to highlight variations in the quality of studies. There were not used to calculate a quality score as this would not be appropriate, given the diverse range and purposes of the studies. Care was taken, however, to consider the design and conduct of each study when interpreting the findings and to be properly cautious in inferring causation.

Quantitative studies

1. Is the study based on a representative sample selected from a relevant population?
2. Does the study use an appropriate comparison group?
3. Is the baseline response equal or greater than 60% of initial sample?
4. Is the follow-up greater than 80% in a cohort study or greater than 60% in a repeat cross-sectional study?
5. Are the effects of non-responses and/or drop-outs explored?
6. Are the authors' conclusions substantiated by the data in their results?
7. Are the effects of potentially important confounding factors explored?
8. Were all members of the study population (or intervention group) exposed to the intervention?
9. Does the study use appropriate statistical tests, where appropriate.

Qualitative studies

1. Was there a clear statement of the research question and aims?
2. Was the qualitative methodology appropriate to address the aims of the study?
3. Does the sample produce the type of knowledge necessary to understand the structures and processes within which the individuals or situations are located?
4. Were the data collected in a way that addressed the research issue?
5. Are the data analysis methods appropriate to the subject matter?
6. Is the description of the findings provided in enough detail and depth to allow interpretation of the meanings and context of what is being studied?
7. Are the conclusions justified by the results?
8. Have the limitations of the study and their impact on the findings been taken into account?
9. Has the relationship between researcher and participants been adequately considered?

Table A4.1. Legislation against discrimination

Study + Country	Programme and year of evaluation	Study Details	Results	Critical appraisal ^a
1. Pope & Bamba (2005) UK	Disability Discrimination Act (DDA) 1990-2002	c20000 sectional population (General Household Survey)	Age standardised employment rates remained relatively stable from 1990 to 2001 for people defined as 'not disabled'. The employment rates of people defined as 'disabled' decreased since 1990, and were at their lowest following the implementation of the DDA in 1996 (1998-2002). In addition, the gap between the employment rates of people defined as 'disabled' and 'not disabled' was most marked after the DDA between 1998-2002 ($p < 0.05$). Concludes that they found no evidence of positive effect of the DDA on employment rates and "in fact, disparity between with and without a disability has increased". Considers some, but not all, limitations of study.	Quantitative: 1,3,4,6,8,9
2. Bamba & Pope (2007) UK	Disability Discrimination Act (DDA) 1997-2004	c20000 sectional population (General Household Survey)	'Pre-existing socioeconomic class inequalities in the employment rates of people with a limiting longstanding illness or disability increased after the introduction of the DDA' in 1996 – as the employment rate of social classes I and II stayed stable, while the rate for social classes IV and V declined significantly since the DDA was introduced. Further conclusions drawn in the paper go beyond what can be substantiated by the data.	Quantitative: 1,3,4,8
3. Jones <i>et al</i> (2006) UK	Disability Discrimination Act (DDA) 1997-2003	c60,000 sectional samples households (Labour Force Survey). Econometric analysis	DDA implemented in December 1996, study covered post-DDA only: from 1997-2003. Found that substantial differences in both the likelihood of illness and levels of earnings remain between people with work-limiting illness and those without, especially for those with mental health problems. Attempted to separate the unobserved productivity effect of disability from discrimination by analysing the earnings of workers with 'work-limiting' disability and 'non-work-limiting' disability separately. Found that wage 'discrimination' had fallen for men over time, but some discrimination remains in 2003 in the case of women whose disability is 'work-limiting'.	Quantitative: 1,3,4,6,7,8,9

4. Bell & Heitmuller (2005) UK	Disability Discrimination Act (DDA) 1991-2002	c10,000 longitudinal panel with stratified cluster sampling (British Household Panel Survey) c30,000 repeat cross-section survey (Family Resources Survey)	Quantitative: 1,3,4,6,7,8,9	Pooled probit estimates suggest employment rate of disabled people fell by 4% (p<0.05) in the post-DDA years 1997 and 1998, using BHPS data and limitations in day-to-day activities definition of disability – even larger when using work-limiting disability definition, when the fall was 14% (p<0.05).
5. Simm <i>et al</i> (2007) UK	Disability Discrimination Act (DDA) 2006	2,001 uncontrolled, cross-sectional survey of UK employers, plus 50 establishment level case study in-depth interviews	Quantitative 1,6,8 Qualitative 1,2,3,4,6,7	73% employers aware of some legislation giving rights to employees and job applicants with long term health problems or disabilities (25% knew the DDA), more awareness in large employers (>100 = 96% and 74%), voluntary sector (87% and 36%) and public sector (77% and 33%). 70% employers say they've made at least one adjustment to accommodate disabled applicants at the recruitment stage and 70% say they've made or are planning to make an adjustment for a disabled employee (larger employers more likely to have made changes). Of those who made changes, 72% said making adjustments was easy, only 43% cited legislation as a reason for making adjustments. 22% felt employing a disabled person was a major risk, 33% felt it would difficult to retain a disabled employee and 10% felt disabled employees were less productive. No universal acknowledgement of what constitutes a disability.
6. Kelly <i>et al</i> (2005) UK	Disability Discrimination Act (DDA) 2005	1,002 uncontrolled, cross-sectional survey of small employers in the UK (not NI), plus 36 face-to-face in-depth interviews with relevant staff drawn from above	Quantitative 1,8 Qualitative 3,4,7	74% aware of some legislation (17% knew the DDA). Of those who were aware of legislation, 13% aware that it included making reasonable adjustments. Of whole group, 29% said they did not have flexible procedures that would allow them to employ a disabled person and 44% felt it would be difficult to retain an employee who became disabled, 31% felt employing a disabled person was a major risk, 17% felt a disabled person would be less productive. No universal acknowledgement of what constitutes a disability.

7. Roberts <i>et al</i> (2004) UK	Disability Discrimination Act (DDA) 2003	2022, uncontrolled, cross- sectional survey of UK employers and 74 in- depth interviews across 38 different workplaces	Quantitative 1,6,7,8 Qualitative 1,2,3,4,5,6,7	63% aware of some legislation (only 10% knew the DDA), more awareness in larger employers >100 (92%), public sector (78%), voluntary sector (88%), and those with existing disabled employees (69%). Overall the DDA was not cited as a motivation for employers' behaviour - amongst employers that had made adjustments for disabled employees, only 35% said that it was done partly as a result of the DDA. 33% expressed that employing a disabled person was a major risk for the employer and 47% said they would find it difficult to retain an employee who became disabled. No universal acknowledgement of what constitutes a disability.
8. Stuart <i>et al</i> (2002) UK	Disability Discrimination Act (DDA) 1998-1999	1,754 uncontrolled, cross- sectional survey of UK employers and 50 case- study in-depth interviews with relevant staff drawn from above	Quantitative 1,6,8 Qualitative 1,2,3,4,6,7	75% aware of the DDA (prompted) with higher awareness of its employment provisions in the public admin, education and health sectors (53%) and lowest in transport and hotels/restaurants (20 and 29%). Larger employers more likely to have formal written policy on employing disabled people (>500 – 50%), 85% no specific recruitment policy. Of those who have or have had disabled employees, 66% had made no adjustments, only 2% say this was a result of the Act.

^aNumbers in this column signify the critical appraisal criteria outlined in Box A4 that the studies were deemed to have met.

Table A4.2: Workplace and employment accessibility

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
9. Campolieti (2005) CANADA	Employer - initiated workplace accommodations 1979-1989	Case control study of 5,645 injured workers (derived from Survey of Ontario Workers with Permanent Injuries) cases = those who received work accommodations.	Quantitative: 1,6,7,9	Found that a flexible work schedule or modified work associated with a significant increase in employment duration by 25.5% and 55.8% respectively (p<0.05, n=5645).
10. Butler <i>et al</i> (1995) CANADA	Employer - initiated workplace accommodations 1974 - 1987	Econometric analysis of 1,850 injured workers (derived from Survey of Ontario Workers with Permanent Injuries) who returned to work.	Quantitative: 1,6,7,9	Used routine cross sectional survey data to estimate the effect of workplace modifications/flexible arrangements on employment following disability associated with workplace injury. People given light duties and reduced hours by their employers were twice as likely to return to work and not have multiple absences from work (n=1850). Firms were more willing to accommodate workers who were less likely to leave the company's employ.
11. Johansson <i>et al</i> (2006) SWEDEN	Workplace accommodations 2000 – 2001	Cross sectional survey of 5,590 private- sector salaried employees sick-listed for => 90 days in 2000 (3,056 responded, 45% non-response).	Quantitative: 5,6,7,9	For both men and women the likelihood of return to work (both full- and part-time) increased with increasing number accommodation opportunities. Controlling for health, stimulating work and demanding domestic work, the odds ratio for women with between 7-9 opportunities to adjust their work returning to full-time work was 2.9 (95% CI 1.9 – 4.3) and part time 3.9 (95% CI 2.7- 5.7). The equivalents for men were 3.2 (95% CI 2.0 – 5.1) and 4.2 (95 % CI 2.7 – 6.7).
12. Nordqvist <i>et al</i> (2003) SWEDEN	Sick-listed individuals' view of factors that promote return to work	Five focus-group, total 30 participants all long-term sick-listed with back, neck or shoulder diagnoses	Qualitative: 1,2,3,4,6,7,8, 9	Participants on long-term sick leave considered that adjustment of work demands was essential for the return-to-work process. This was viewed as important not just to aid return to work, but so that colleagues were clear that the person cannot undertake normal duties. Also maintaining routines to inform colleagues of the adjustments being undertaken.

<p>13. Isaksson Mettavainio & Ahlgren (2004) SWEDEN</p>	<p>Disabled workers views of factors that promote return to work 2001</p>	<p>Thematic interviews with 10 registered work disabled individuals who had returned to work in the past two years</p>	<p>Qualitative: 1,2,3,4,5,6,7, 8,9</p> <p>All interviewees noted importance of adjusted work, especially physical factors such as adjustments to work pace, lifting, monotonous work and working hours. In addition, adjustment to social environment in terms of reducing number of social contacts was noted as important. Adjustments had been made possible through wage subsidies, sheltered employment and support for assistive devices. Work trial seen as a useful means of assessing how much adjustment other workers were willing to accept. Respondents also emphasised the need to adjust self (and colleagues) to reduced work capacity.</p>
<p>14. RNIB (2004) UK</p>	<p>Access to Work (AtW) 2003</p>	<p>Semi-structured interviews - 30 matched pair (30 partially-sighted AtW users and their employers) and 10 individual partially- sighted users</p>	<p>Qualitative: 2,3,4,6,7</p> <p>Majority of users reported that they would not be in their jobs if not for the specialist equipment or transport assistance provided through AtW. Employers, particularly in smaller companies, felt they were much less likely to take on or retain employees with sight difficulties without the support provided through AtW.</p>
<p>15. Beinart <i>et al</i> (1996) UK</p>	<p>Access to Work (AtW) 1994/1995</p>	<p>Cross sectional survey of ATW recipients (n=791) and employers (n=466) and comparison with Labour Force Survey data and qualitative interviews with stakeholders</p>	<p>Recipients: 49% reported that they would not have commenced employment without the intervention, 31% claimed no influence. Employers: 18% employed ATW recipients after they had received an offer of help. 49% said that the intervention made them more likely to employ individuals with a disability or illness in future.</p>

16. Hillage <i>et al</i> (1998) UK	Access to Work (AtW) 1997	Cross sectional survey of ATW applicants (n=492) and linked employers (n=258) comparison with Labour Force Survey data, interviews with ATW managers and other stakeholders.	See Bambra <i>et al</i> (2005)	Recipients: 41% said they would not have commenced employment without the intervention, 38% reported no influence. Employers: 17% claimed they would not have employed/continued to employ the recipient without the intervention, 68% said that intervention made no difference/they would have maintained/offered employment anyway.
17. Thornton <i>et al</i> (2001) UK	Access to Work (AtW) 2000	Cross sectional survey of ATW users (n=628) and in-depth interviews with users (n=20).	See Bambra <i>et al</i> (2005)	Respondents rated the extent to which ATW enabled them to work: 45% said they 'could not work without it', 32% 'a great deal', 14% 'quite a lot', 5% 'not much'.
18. Thornton & Corden (2002) UK	Access to Work (AtW) 2001	97 full case-studies with ATW clients and associated employers.	See Bambra <i>et al</i> (2005)	Most respondents said they found intervention valuable and that it was 'highly unlikely' that they would be in employment without it.

^aNumbers in this column signify the critical appraisal criteria outlined in Box A4 that the studies were deemed to have met.

Table A4.3: Financial incentives to employers

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
19. Datta Gupta & Larsen (2008) DENMARK	<i>Flexjobs</i> 1994 - 2002	Econometric analysis of routine population survey data and register data total sample size 17,545	Quantitative: 1,2,6,7,9	In this econometric evaluation of <i>flexjobs</i> , a positive employment effect was only found for work-limited disabled people aged 35-44 (10.5-12.5%, $p < 0.05$) compared to the non-disabled after the scheme was introduced. No significant employment effects were found for 45-59 year-olds, while for the 18-34 years olds the effect was uncertain. Further, they found that the employment probability of the disabled with no reduction in workability was raised by 5-8% compared to the non disabled after the introduction of the <i>flexjobs</i> scheme. This suggests that the <i>flexjobs</i> might increasingly have been assigned to those with no reduction in work ability who might otherwise have obtained a job without the scheme.
20. Hohnen (2001) DENMARK	<i>Flexjobs</i> 1999 - 2000	30 in-depth qualitative interviews with <i>flexjob</i> employees, employers, social workers and other stakeholders	Qualitative: 1,2,3,4,6,7	Many <i>flexjobs</i> were unskilled, odd jobs even if the employee was skilled, although most individuals interviewed were happy to be in work. Interviewees felt scheme had negative consequences for both self-esteem and relationship with colleagues. Many reported a loss of rights, specifically loss of qualification to receive UE benefit, many not entitled to pre-retirement pay. Negotiating flexible work often not possible due to need to fit in, conflicts over rate of pay for <i>flexjobs</i> . Author concluded that <i>flexjob</i> employees were positioned as social clients not employees with rights, thus is a danger of exclusion within employment.

21. Scheel <i>et al</i> (2002a)	Active sick leave 1998 - 1999	Cluster-randomised controlled trial with 65 municipalities in 3 Norwegian counties randomly allocated to one of two intervention groups (pro-active and passive) or a control group	Quantitative: 1,2,6,8,9	Sixty-five municipalities in three counties were randomised in clusters and assigned to a passive strategy (four elements including targeted information to patients, a reminder for GPs and a standard agreement between employer and employee), a proactive strategy (all four “passive” strategies plus a continuing education workshop for GPs and a resource person to actively follow up patients with motivating phone calls) or a control group (no special information or support around ASL). Follow-up over 12 months showed that the proactive strategy could increase the use of ASL by 50%: ASL was used significantly more in the proactive strategy municipalities (17.7%) compared with the passive strategy and control municipalities (11.5%, $p=0.018$) (Scheel <i>et al</i> , 2002 a). In terms of the effects on employment outcomes, however, this increase did not result in measurable improvements in return to work or quality of life at the population level. The median number of days on sick leave was similar in the proactive strategy group (70 days), the passive strategy group (68 days) and the control group (71 days) ($p=0.8$). The proportion of patients returning to work before 50 weeks was also similar in the proactive (89%), passive (89.5%) and control groups (89.1%) (Scheel <i>et al</i> , 2002b). The conclusion from this trial was that it is unlikely that efforts to increase the use of ASL will result in measurable economic benefits or improved health outcomes at the population level.
22. Scheel <i>et al</i> (2002b)				
NORWAY				
23. Atkinson & Kodz (1998)	Job Introduction Scheme 1997	Qualitative interviews with 40 employers, 32 benefit advisers, 14 regional managers, and 10 recipients	See Bamba <i>et al</i> (2005)	Majority of employers (30/40) continued the employment of the participant after the 6–13-week intervention period. Half of employers said that they would have offered the employment to the participants without the intervention. Employers considered Subsidy too small to act as incentive.
24. Corden & Sainsbury (2001)	Work Trial 2000	34 in-depth interviews with clients/staff	See Bamba <i>et al</i> (2005)	All participants obtained employment after the 15-day intervention period expired. Longer-term retention was considered to be a problem especially when the individual’s health condition worsened.
UK				

^aNumbers in this column signify the critical appraisal criteria outlined in Box A4. that the studies were deemed to have met.

Table A4.4. Enhancing responsibilities in return-to-work planning.

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
25. Khaledi (2005) SWEDEN	Return to work planning 2004	Review of 802 rehabilitation assessments and plans	Quantitative: 1,3,6,9	Employers fail to fulfil their statutory duty to establish rehabilitation assessments within the eight weeks timeframe and to the extent that they are required.
26. Selander <i>et al</i> (1998) SWEDEN	Return to work planning 1992 - 1993	Matched case control study using register data of 78 employed and 78 unemployed people (matched by age, gender, diagnoses and income) long-term sick-listed with back pain diagnoses in Stockholm	Quantitative: 2,6,9	Comparing return to work planning situation for employed and unemployed sick-leavers in Stockholm and comparing with earlier study in rural Jamtland. Main source of initiation of rehabilitation was physicians rather than employer/social insurance office. No significant differences between employed and unemployed in terms of time rehabilitation assessment initiated, (less than 30% conducted within statutory 8 weeks), median wait for plan, quality of plan, number of plans established. Authors conclude that main problem was that the rehabilitation process was not working due to both employers and social insurance officials not being aware of or acting upon their statutory duties.
27. Marnetoft <i>et al</i> (1997) SWEDEN	Return to work planning 1992-1993	Matched case control study of 59 employed and 59 unemployed people long-term sick-listed with back pain diagnoses in Jamtland	Quantitative: 1,2,6,9	Low levels of rehabilitation assessment initiated for group (employed 37%, unemployed 15%), few initiations by employers (7%); average time sick-listed before assessment was 11 weeks for employed and 24 weeks for unemployed. By statutory 8 week limit, few assessments started and plans seldom started. Main finding was that neither employers nor social insurance office appear to be fulfilling their statutory duties (slightly worse for unemployed).

28. Östlund <i>et al</i> (2001) SWEDEN	Return to work process 1997-1998	20 qualitative interviews with men and women who had experiences of sickness absence with musculoskeletal diagnoses (aged 35 to 47)	Qualitative: 1,2,3,4,5,6,7,8	Interviewees focused mainly on the socio-emotional aspects of treatment – how they had been treated, by whom rather than what kind – they considered most important factor in rehabilitation to be finding supportive relationships in the process and they emphasized management of their whole life situation (private, occupational, health care arenas).
12. Nordqvist <i>et al</i> (2003) SWEDEN	Return to work process n.d.	Five focus-groups with total of 30 people long-term sick-listed with back pain diagnoses	Qualitative: 1,2,3,4,6,7,8,9	Importance of an employer established return to work programme was emphasised, and that maintaining contact with the employer was central to this; important to have adjusted work demands on return; supervisors and managers are viewed as not having time design rehabilitation plans; Research indicates importance of a simple, unambiguous return to work programme with employer contact, work adjustments, information sharing and a clearly responsible person.
29. Söderberg <i>et al</i> (2004) SWEDEN	Return to work process 2001-2002	Qualitative interviews with 10 rehabilitation clients sick-listed between 3 months and two years	Qualitative: 1,2,3,4,5,6,7,8	Clients described how rehabilitation was a long process, often years, how rehabilitation authorities were often rigid, functioned slowly and failed to collaborate. Some felt not listened to, understood or taken seriously.
30. Ahlgren & Hammarström (2000) SWEDEN	Return to work process 1995	Qualitative interviews with 7 women and 4 men strategically sampled from a quantitative study of vocational rehabilitation in northern Sweden	Qualitative: 2,3,4,5,6,7,8,9	Men appeared to have a more demanding attitude toward getting help from both the health and social security systems, similar findings with follow up rehabilitation measures. Women more family-oriented and put family before rehabilitation goals. Study indicates that gendered nature of rehabilitation process can effect outcomes.

31. Lindqvist & Grape (1999) SWEDEN	Return to work planning 1996	39 semi-structured interviews with state welfare staff working in co-operative vocational rehabilitation projects	Qualitative: 2,3,4,5,7	Interviewees cited improved cross-sectoral learning and knowledge transfer, better assessment of clients' needs and higher accuracy in rehabilitation assessment, increased client mobilization, enhanced client motivation and self-esteem. Negative experiences – lack of common definitions, goals and visions, problems defining the relevant clients, shared funding issues and lack of resources, too many different benefit types, hierarchical decision-making.
32. Gard & Söderberg (2004) SWEDEN	Return to work planning 1999-2001	Qualitative interviews with 10 social insurance officers in a city in northern Sweden	Qualitative: 1,2,3,4,5,7,8	Social insurance officers' suggestions for how a work rehabilitation process could be improved fell into is main categories: (1) early identification of problems, needs and interventions at the workplace, (2) clear goal formulations, (3) a focus on psychosocial factors, (4) a greater variety of possible interventions, (5) activating employers in work rehabilitation to a higher extent and (6) a closer cooperation and information exchange with other rehabilitation actors.
33. Holmgren & Dhalin Ivanoff (2007) SWEDEN	Return to work planning 2004	Six focus groups with supervisors (n=23) experienced in managing sick-listed employees.	Qualitative: 1,2,3,4,5,7,8	Supervisors viewed themselves as key peoplers in preventive and rehabilitation work, but were unclear where employer responsibility ends. View themselves as key to building confidence and providing support for sick-listed person, but also enforcing rehabilitation regulations. Expressed uncertainty about how far their responsibility goes.
34. Jakobsson <i>et al</i> (2005) SWEDEN	Multiprofessional rehabilitation groups (Beta Project) 1998-1999	Matched case control study 51 long-term sick-listed individuals undergone rehabilitation with the Beta Project matched with local and national comparison groups not involved with Beta Project	Quantitative: 1,2,6,7,8,9	68.6% in the study group and 49% in both the local and national comparison groups had some form of employment 24 months after rehabilitation. Study group clients were twice as likely to be employed after rehabilitation as both the local and national comparison groups (p<0.05).The majority of employment in all the groups was associated with some form of subsidy or sheltered employment.

35. Karrholm <i>et al</i> (2006) SWEDEN	Multiprofessional rehabilitation groups 2000	Matched cohort study long-term sick-listed (intervention group n = 64, matched group, n = 64)	Quantitative: 1,2,6,7,8,9	Study group had substantially less sick leave days per month than the comparison group during the second half-year after the rehabilitation co-ordination period (p=0.001). The effect was greater in a subgroup who had had more sick leave previously (median sick leave down from 13.2 to 2 days per month, p=0.010). The economic benefit of the intervention was estimated to 1,278 euros per month and person based on the whole group, and to 2,405 euros per month and person based on those with more sick leave.
36. Hultberg <i>et al</i> (2003) 37. Hultberg <i>et al</i> (2005) 38. Hultberg <i>et al</i> , (2006) 39. Hultberg <i>et al</i> 2007) SWEDEN	SOCSAM legislation/the Delta Project	Mixed methods (including a comparative prospective study of three DELTA health centres and four matched health centres not using co-financed, multidisciplinary teams combined focus groups analysing staff experiences and three-stage structured interviews with 226 patients at study and control centres to assess health and other outcomes)	Quantitative 1,2,6,7,8,9 Qualitative 1,2,3,4,5,7	The co-location and co-financing of the different service providers enhanced interdisciplinary and inter-organisational collaboration compared to non-Delta health centres. Key issues remained, e.g. formulation of rehabilitation goals, physicians opting out of teamwork. From analysis of patients experiences, there was no indication that the Delta project had produced improvement in teamwork at the study centres. The hypothesis that multidisciplinary teams would improve the rehabilitation process leading to less sickness absence was not supported. After controlling for confounders, no statistically significant difference between study and control centres in sickness absence after 12 months for patients with musculoskeletal disorders. No statistically significant differences across a range of health outcomes (pain, occupational function, health-related quality of life between subjects and controls. Small sample sizes and the limited geographical area of the study mean findings are tentative and must be treated with some caution.

^aNumbers in this column signify the critical appraisal criteria outlined in Box 1 that the studies were deemed to have met.

Table A4.5: In-work benefits and into-work incentives

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
40. Eden <i>et al</i> (2006) SWEDEN	Resting Disability Pension 2000	Matched cohort of 299 recipients and non-recipients of resting disability pension	Quantitative: 1,2,3,5,6,8,9	Individuals with resting disability pension, when compared to a control group, were more likely to have been disability pensioners for several years, had additional education, estimated their previous job to have been physically strenuous to a lesser degree, were more satisfied with the treatment at the social insurance office and had a more positive self-image.
41. Corden and Sainsbury (2003) UK	Disabled Person's Tax Credit 2001/2002	54 in-depth interviews with recipients of DPTC in four localities across England, Scotland, and Wales	Qualitative: 1,2,3,4,5,7	Some evidence that Disabled Person's Tax Credit worked as an employment incentive as some claimed they would not have made the move into work without it. This attributed to overcoming fears about low earnings and providing financial security. Take up and use strongly influenced by Personal Advisors and previous experience of in-work benefits, but overall DPTC take up was low.
42. Corden & Nice (2006c) UK	Return to Work Credit (RTWC) 2005	35 in-depth interviews with 35 RTWC recipients across 7 PTW Pilot areas	Qualitative: 1,2,3,4,7	Evidence indicates that RTWC can support lasting transitions to work from incapacity benefits for some people through earnings supplement effect and helping with outstanding debts. Can act as an incentive, but individuals often found out about RTWC <i>after</i> making arrangements to work. Also, for some the amount of the credit was not significant in terms of overall household income. People reported being keen to move off IBs and often find and move into suitable work without knowing about RTWC.

43. Corden <i>et al</i> (2005)	Return to Work Credit (RTWC)	2004-2006	Longitudinal qualitative panel study with 3 cohorts totalling 105 IB recipients in the first seven UK pilot areas. Three individual interviews per recipient.	Qualitative: 1,2,3,4,5,7	Across all three cohorts there was limited experience of RTWC. Those who had taken it up were often women who returned to low skill part-time work. Limited incentive effect on moving towards work as applicants needed to be in work already to receive it. In addition, the extra income (£40 per week) can be eroded by the implementation of full rent/council tax or the activation of debt recovery or unpaid income tax.
44. Corden & Nice (2006a)					
45. Corden & Nice (2006b) ¹					
UK					
46. Dickens <i>et al</i> (2004a)	Return to Work Credit	2004 - 2005	49 in-depth interviews with incapacity benefit administrators and 7 with work psychologists plus 10 focus groups with administrators over two waves in seven pilot areas	Qualitative: 1,2,3,4,6,7	Studies of the administrators indicated that most felt the <i>Return to Work Credit</i> had the potential to support return to work, especially for part-time work and in low wage areas, but that it worked largely for those who would have returned to work anyway or were closest to the labour market. Some administrators expressed concern that the state of local labour market would make work unsustainable after 12 months of RTWC ended for some customers.
47. Knight <i>et al</i> (2005) ¹					
UK					
48. Dewson <i>et al</i> (2004)	Permitted Work Rules (PWR)	2003 - 2005	1435, uncontrolled cohort of IB recipients who were or had been doing <i>Permitted Work</i> in 2002 + longitudinal in-depth interviews with 59 PWR participants + 12 focus groups with staff at 6 <i>Job Centre Plus</i> sites	Quantitative 6,8	In all, twenty-five percent of all respondents were in work and not receiving incapacity benefits, that is, they had managed to make, and sustain, a move from benefits to work. A further 35 % were in work and still receiving benefits. Forty-three percent were not in work, of which the vast majority (92%) were in receipt of incapacity benefits. The positive employment effects appeared stronger for individuals who had a shorter history of claiming benefits and were living with a working partner. Many respondents, whether in work at wave three or not, reported benefits from their recent work experience, including gains in knowledge that they could cope with work, increases in self-confidence and motivation.
49. Dewson <i>et al</i> (2005)					
UK					

50. Rowlingson & Berthoud (1996) UK	Disability Working Allowance (DWA) 1993/1995	1113 survey of people on sickness and disability benefits and 324 recipients of DWA + two cohorts of new DWA recipients, + focus groups +interviews with disabled people and rejected DWA applicants	See Bamba <i>et al</i> (2005)	Respondents aware of the intervention at the start of the study were twice as likely to gain employment as those who were unaware, but the difference was not statistically significant (10% of aware gained employment vs. 5% of unaware, n.s.).
51. Arthur and Zarb (1997) UK	Disability Working Allowance (DWA) 1995 - 1996	Follow up survey of 2,800 DWA recipients	See Bamba <i>et al</i> (2005)	45% of new recipients already in employment reported that they would not have retained their employment without the intervention; 40% of new recipients starting employment claimed they would not have taken employment without the intervention.
18. Thornton & Corden (2002) UK	Travel to Work 2001	36 full case-studies of users and their employers	See Bamba <i>et al</i> (2005)	Evidence from most users that they considered that <i>Travel to Work</i> was essential to their taking up a job.
24. Corden & Sainsbury (2001) UK	Disabled Person's Tax Credit. Jobmatch 52-week linking rule Job Finder's Grant 2000	34 interviews with clients who had used one of the interventions +group exercises with 29 admin. staff in five of the 15 pilot areas	See Bamba <i>et al</i> (2005)	<i>Disabled Person's Tax Credit</i> : interviewees claimed that <i>Credit</i> influenced some decisions to take work, more so when estimated in-work benefit was over £50 per week. <i>Jobmatch</i> : participants said that it had influenced their decision to take up employment. <i>52-week linking rule</i> : low awareness, few said that it had influenced their decision to take work—but these valued it highly. <i>Job Finder's Grant</i> : no influence on decision to take job. Viewed as a reward not an incentive.

¹ These studies also evaluate case management and health management interventions (see Tables 6 and 8 respectively)

^aNumbers in this column signify the critical appraisal criteria outlined in Box 1 that the studies were deemed to have met.

Table A4.6: individual case management and job search support

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
52. HSDC (2001) UK	Individual case management (Opportunities Fund) 1998-1999	Single cross sectional survey of <i>Opportunities Fund</i> users (n=1,034) with comparison group (n= 490), 6 focus groups, 30 qualitative interviews, employer survey (n = 159)	Quantitative 6,7,8,9 Qualitative No information	Controlling for pre-existing differences between programme participants and the comparison group, <i>Opportunities Fund</i> participants were 15% more likely to be employed at the time of the interview (p<0.01), worked 14.6% more weeks during the post-programme period (p<0.01) and were 10% more likely to have ever worked in the post-program period (p<0.05). There were no statistically significant impacts on weekly earnings, personal income, receipt of public income support or attitudes (e.g. confidence, optimism).
53. Cross Gilroy Inc. (2006) UK	Individual case management 2002-2005	Cross sectional survey with follow up, qualitative interviews, analysis of administrative data	Quantitative: 6,8,9	Study participants in <i>Full Steam Ahead (FSA)</i> and <i>Career and Employment Case Management Centres (CMC)</i> both showed slight, but not significant, improvements in employment duration post-intervention (months employed before: 1.87, 1.99 respectively, months employed after 3.15, 3.07, p>0.05). Participants in both programmes indicated a high level of satisfaction with the services provided and reported improved health and quality of life since receiving services.
54. Høgelund <i>et al</i> (2008) DENMARK	Case management interviews (CMI) n.d.	Cross sectional survey with follow up	Quantitative 1,3,6,7,8,9	Indicates that the use of CMI with the long-term sick-listed increased dramatically, and the number of persons indicating the positive role of the interview for returning to work increased.

55. Høgelund & Holm (2006a) SWEDEN	Case management interviews (CMI) 1995-2001	Econometric – Stratified representative sample of wage earners, sick-listed for more than 8 weeks (n=1000)	Quantitative: 1,3,5,6,7,8,9	CMI had a positive effect on returning to work at a 10% significance level (1.692). This finding masks a diverse effect: CMI has a positive and strong effect on returning to work for a pre-sick leave employer (2.772, p<0.05) and a negative and non-significant effect on returning to work for a new employer (-0.732, p>0.10). Those with mental diagnoses had low probability of returning to work with pre-sick leave employer, but a high chance of finding work with a new employer – vice versa for musculoskeletal and other diagnoses. Long seniority increased probability of returning to work with pre-sick leave employer, but reduced chances of finding work with a new employer.
56. Green <i>et al</i> (2003) UK	ONE Advisory Service 2000/2001	4783, controlled cohort study of new benefit claimants in 24 UK areas (12 intervention, 12 control).	Quantitative: 1,2,3,6,7,9	Improvements in employment outcomes were recorded but these were not statistically significant in the case of the ONE Advisory Service, where both the intervention and comparison groups experienced a 5% increase in employment.
57. Kirkby & Riley (2003) 58. Kirkby & Riley (2003) UK	ONE Advisory Service – work focused Interviews 1996-2001	29,451 repeat cross-sectional survey with comparison groups (12 intervention, 12 comparison)	Quantitative 1,2,3,6,7,9	No statistically significant difference in probability of sick/disabled clients leaving incapacity benefits between intervention and comparison groups. Those who participated in ONE in early stages left benefit quicker than those who participated later – suggesting a worsening in labour market outcomes when the service should have been improving after any start-up difficulties. No statistically significant differences in outcome by gender.
59. Heenan (2003) UK	New Deal for Disabled People Personal Advisors (no date)	2 focus groups totalling 28 users of a pilot Personal Advisor scheme in South Tyneside delivered by charitable sector organisation	Qualitative 1,2,3,4,6,7,8	For many service users, the type of organisation delivering the service was a key factor influencing their decision to participate. Participants perceived that service was better delivered through the voluntary/charitable sector than state sector due to disillusion with state sector/government, lack of trust in latter and fear of benefit withdrawal.

60. Lewis <i>et al</i> (2005)	New Deal For Disabled People	Qualitative longitudinal study in two waves: in depth interviews with 135 JB clients, 23 JB managers, 23 Disability Employment Advisers, 17 focus groups with JB staff and 15 focus groups with Jobcentre Plus advisers.	Qualitative: 1,2,3,4,7,8	<i>Wave One and Two findings:</i> Mixed views of the role of the intervention on movement into work: some very positive, seeing the intervention as essential to the move into work or accelerating the process; others less positive. Clients who had wanted and received a higher level of support from JB's generally felt the JB had had a positive impact on their move into or towards work. There were other limiting factors such as the clients' health, access to transport, poor local public transport networks, lack of a driving licence, and caring for dependants. Generally the jobs gained were unskilled or semi-skilled, usually at a lower level than that had been undertaken prior to being on benefits. Generally work was part-time (<35 hours per week), but this was attributed to the nature of clients' health problems or to keep within the Permitted Work Rules.
61. Corden <i>et al</i> (2003)	Job Brokers (JB) 2002 - 2004			
UK				
62. Kazimirski <i>et al</i> (2005)	New Deal For Disabled People	4082, Uncontrolled, cohort national survey	Quantitative: 1,3,6,7,8,9	47% of registrants were in paid work 12 months after the intervention (including 19% under Permitted Work Rules). 68% worked over 16 hours per week. Median gross pay was £158 per week for employees. 25% entered elementary level work but 65% said that their employment was related to their previous skills or experience. Women, white respondents, those without basic skills problems, those with a musculo-skeletal health condition, those with better overall health, those with a partner, and those whose JB provided a generic service were significantly more likely to work.
63. Adelman <i>et al</i> (2004)	Job Brokers (JB) 2002 - 2004	NDDP registrants. Results presented are from Kazimirski <i>et al</i> (2005), which include those of Adelman <i>et al</i> (2004) and Ashworth <i>et al</i> (2003).		Of those who started work, 74% had had one period of employment between registration and one year later; 50% were still in their first job one year post-registration. 71% of participants were working or looking for work 1 year after registration. However, 72% of employed participants felt that they would have gained employment without the JB intervention.
64. Ashworth <i>et al</i> (2003)				
UK				

65. Aston <i>et al</i> (2003)	<i>New Deal for Disabled People (NDDP)</i>	Two waves of in-depth interviews (wave 1, n = 80, wave 2, n = 50) with employers participating in NDDP	Qualitative 1,2,4,6,7,8	Even though all interviewed employers had recruited through the NDDP, only 31 reported being involved with NDDP or JB's. Scale of recruitment not large – through varied between one-sixth and all employees with a disability health condition recruited. Recruitment was generally to low-level clerical, customer service or call centre work. For some the intervention was critical to recruitment, and JB's could change employer attitudes toward recruiting people with disabilities or health conditions. This came about through building a close working relationship with potential employers as part of a range of interventions drawn upon by employers to recruit people with disabilities and health conditions and to seek support from.
66. Aston <i>et al</i> (2005)	<i>Job Brokers (JB)</i>	2002-2004		
67. Davis <i>et al</i> (2006)	<i>New Deal For Disabled People Job Brokers</i>	2005	Qualitative 1,4,6,7	The performance levels of Job Brokers were perceived as somewhat erratic, due to a number of internal and external factors including performance targets, relationship between Job Broker and Job Plus schemes, JB size, location and premises, quality and commitment of staff, knowledge of local labour market. Some evidence that performance targets has lead to 'cherry picking' and 'creaming' of the most job ready clients in order to maintain performance figures.
68. Woodward <i>et al</i> (2003)	<i>New Deal for Disabled People (NDDP)</i>	3,452 repeat cross-sectional telephone survey of NDDP eligible population plus 30 in-depth interviews with 'knowledgeable' non-registrants	Quantitative 1,3,6,9	Awareness of NDDP and JB's was less than 50% of eligible population, increased across the survey waves. Much confusion around registration on NDDP for all respondents' self-reported registration was around 5%, but actual registrants on NDDP database much lower. <i>The proportion of the eligible population that register with a NDDP JB had stayed persistently low since the inception of the programme.</i> (2006: 89) Non-registration largely due to ill-health, also fear of losing benefits should job not work out.
69. Pires <i>et al</i> (2006)	<i>Job Brokers (JB)</i>		Qualitative 1,2	

70. Orr <i>et al</i> (2007) UK	New Deal for Disabled People 2001-2004	532,596 retrospective matched cohort (54,049 in treatment group) NDDP eligible population registrants and non-registrants (using DWP administrative data)	Quantitative 1,2,3,4,6,7,8, 9	24 months after NDDP registration employment rates had increased by 11% for existing IB recipients and 7% for new claimants (p<0.05). Benefit reciprocity down by 16% for existing claimants and 13% for new claimants (p<0.05) and reduces weekly benefit amounts by £81 for existing recipients and £51 for new recipients (p<0.05). Stronger employment effects for those under 50 (reversed for new claimants), with physical disabilities, those claiming IB for at least 3 years, furthest from the labour market, served by larger and voluntary/charitable sector IBs, in rural areas (reversed for new claimants), those in areas with larger share of working age population receiving IBs (reversed for new claimants).
71. Adam <i>et al</i> (2006) UK	Pathways to Work Pilots (PTW) 2003-2005	8,035 area controlled cohort study of all claimants making initial inquiry about IB in the seven PTW Pilot areas	Quantitative 1,2,3,6,7,8,9	Early impact of PTW Pilots indicated that 10.5 months after initial inquiry about claiming IBs, the probability of being employed increased by 9.4% (p<0.001), monthly earnings increased by an estimated £71.73, the probability of claiming IBs reduced by 8.2% (p<0.001) and the probability of reporting a limiting health problem by 2.9% (p<0.05). No statistically significant evidence that these findings differed by sex, although seems to have a larger effect on moving women off IBs than men. Has larger impact on moving over-45s off IBs than under-45s (almost nil for latter), but no statistically significant difference in employment outcomes by age.
72. Bewley <i>et al</i> (2007) UK	Pathway to Work Pilots (PTW) 2003-2006	5,784 area controlled cohort study of all claimants making initial inquiry about IB in the seven PTW Pilot areas	Quantitative 1,2,3,6,7,8,9	18 months after initial inquiry about claiming IBs, PTW significantly increases the probability of being in paid work by 7.4% (p=0.09), no statistically significant effect on earnings or probability of claiming IBs (small sample sizes) and no statistically significant effect on probability of reporting limiting health problem. Employment effect appears to be stronger for women (13% p<0.05), for those aged under-50 (10.6%, p<0.1) and those with dependent children (17.6%, p<0.05). Problems of selection bias, due to the <i>New Deal</i> being voluntary and the <i>Pathways</i> pilots only including new claimants, were not adequately accounted for in the studies in this table, which mean these results must be interpreted with caution.

43. Corden <i>et al</i> (2005)	Pathways to Work Pilots (PTW)	Longitudinal qualitative panel study with 3 cohorts totalling 105 IB recipients in the first seven UK pilot areas. Three individual interviews per recipient.	Qualitative 1,2,3,4,5,7	Mixed views on WFI: those closer to work viewed them positively as providing 'valuable help and support', others, especially older respondents, were more negative and found the intervention 'insulting, a waste of time' (2005: 32), and a third group were rather indifferent not viewing the intervention as any more useful than other similar Job Centre Plus schemes. These views did not change over time (2006b: 33). Views of the Job Broker service were similarly split with some valuing the continued support offered, whilst others found that they did not meet expectations and did not do anything that the individual could not do themselves: 'pointless'. No one gained a job as a result of the Job Brokers (2005: 48). Overall view of PTW Pilots in all three cohorts was that had little impact on their views about work or their behaviour in relation to work. The most important influence for many was their perception of their own health: if this improved they were more likely to take steps towards work (2006b: 64)
44. Corden & Nice (2006a)	Work Focused Interview (WFI)			
45. Corden & Nice (2006b) ¹	Job Brokers (JB)			
UK				
	2004-2006			
46. Dickens <i>et al</i> (2004a)	Pathways to Work Pilots (PTW)	49 in-depth interviews with IBPAs and 7 with work psychologists plus 10 focus groups with IBPAs over two waves in seven pilot areas	Qualitative 1,2,3,4,6,7	IBPAs viewed establishing a personal relationship with customers as key to moving latter towards or into work through changing customer attitudes; this relies on IBPAs skills and approach to their work. IBPAs felt that use of targets could undermine their ability to work with customers with long-term needs, also an inherent tension between their role as 'enforcers' and 'enablers' (2004: 70). IBPAs tended to refer to JB's those customers closest to labour market – felt that these customers were the ones JB's could deal with.
47. Knight <i>et al</i> (2005) ¹	Incapacity Benefits Personal Advisors (IBPAs)			
UK				
	Job Brokers 2004 - 2005			

73. Dickens <i>et al</i> (2004b) UK	Pathways to Work Pilots (PTW) Work Focused Interview (WFI)	6 focus groups (3 with 13 new IB customers, 3 with 18 Incapacity Benefit Personal Advisors [IBPAs]) in 3 initial pilot areas	Qualitative 1,2,3,4,6,7,8	Initial findings from early implementation: the reforms viewed positively by IBPAs and that WFIs would provide consistent support to IB customers – although some IBPAs felt those furthest from the labour market would require more time than allowed. Found less customer resistance to WFIs than expected. Some IBPAs felt compelling claimants with health conditions to attend WFIs might cause tensions, as would the use of targets. Customers felt it was <i>fair enough</i> to have to attend WFI, and felt positive about them where there was a good fit between their needs and what was provided. Many also expressed a need for an individual relationship with an IBPA who listened and understood their health condition.
74. Barnes & Hudson (2006a) UK	Pathways to Work Extension to existing customers 2005	Focus groups (13 participants - customers), 5 in-depth customer interviews, 19 telephone interviews with IBPAs	Qualitative 1,2,3,4,6,7,8	Some customers initially anxious about WFIs, feeling they were more about reducing benefit fraud than employment outcomes, but many positive after contact with IBPAs, who were viewed as keen and helpful. Many customers felt that barriers to work (weak local labour markets, attitudes of employers) not overcome by PtW. Those too ill felt they had nothing to gain. IBPAs enthusiastic about extension, felt existing customers needed more and longer-term help as further from labour market and higher incidence of severe and enduring mental health conditions. Whilst IBPAs did report customer progress, they felt management unaware of effort needed to achieve this. Perceived use of targets inappropriate for customers who required help over extended period.
75. Dixon <i>et al</i> (2007) ² UK	Pathways to Work – extension to existing customers 2006	Observation of 17 WFIs, in-depth follow-up interviews with matched IBPAs (13) and IB customers (17)	Qualitative 1,2,3,4,7	No job outcomes as early stages and customers facing significant and multiple barriers to work. Both IBPAs and customers saw building of trust as key to effective relationship and reassuring customers that PtW was not about forcing them back to work. Better outcomes where the relationship was positive and understanding. As existing customers often had complex health and other barriers to work, most IBPAs felt it was unrealistic to expect early work outcomes. Some lack of clarity among IBPAs about what outcomes were justifiable under PtW – moving towards work or moving into work?

76. Loumidis, <i>et al</i> (2001) UK	New Deal Personal Advisor Service Pilot 1999/2000	2557, controlled cross-sectional study of participants and non-participants in 12 pilot areas.+1156 national postal survey of recipients of incapacity benefits + 91 interviews with participants in 12 pilot sites + focus groups with staff	See Bamba <i>et al</i> (2005)	11% of participants and 7% of non-participants left benefit at least once during the 2-year observation period. Participants left benefit at a faster rate than non-participants. Intervention increased participants' confidence and most perceived that it had a positive impact on their move towards employment.
77. Heenan (2002) UK	New Deal Personal Advisor Service Pilot 1999/2000	Interviews with 14 clients of service who had gained jobs plus a focus group	See Bamba <i>et al</i> (2005)	Majority said they would not have been in employment without the support of scheme. Participants identified emotional support given by personal advisors as a key factor in their successful move.

^aNumbers in this column signify the critical appraisal criteria outlined in Box 1 that the studies were deemed to have met.

¹ These studies also evaluate in work benefits and health management interventions (see Tables A4.5 and A.4.8 respectively)

² This study also evaluates health management interventions.

Table A4.7: Education, training and work placement

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
78. Allingham & Hyatt (1995) CANADA	Vocational rehabilitation of <i>Ontario Workers Compensation Board</i> 1989-1990	Econometric – repeat cross sectional survey data	Quantitative 1,9	Survey of injured workers who had made claims for permanent disabilities from the <i>Ontario Workers Compensation board</i> . It compared people who had received vocational rehabilitation (VR) with those who had not, and assessed whether people returned to work following their injury. Found that people who received VR were 68% less likely to have returned to work. They concluded that this was because people who were selected for VR were likely to be those with greater barriers to employment.
79. HRDC (1996) CANADA	Vocational rehabilitation of <i>Canadian Pension Plan</i> 1990-1996	Retrospective cohort with comparison group	Quantitative 2, 5,6,7,8,9	Evaluation of the vocational rehabilitation programme of the <i>Canadian Pension Plan (CPP)</i> , targeted at people who are not working and in receipt of the CPP disability component. Compared the level of employment in the intervention group following the VR programme, with control groups. After controlling for confounders in a multivariate analysis, found that likelihood of being employed was 6% higher in the intervention group than in the control group (p=0.011). No adjustment for selection into programme.
80. SDC (2004) CANADA	Vocational rehabilitation of <i>Canadian Pension Plan</i> 1998	Retrospective cohort with comparison group	Quantitative 2, 6,7,8,9	Evaluation of rehabilitation programme of CPP (as above study). Found that the likelihood of being employed was 15.3% higher (p>0.05 <0.1). The authors did not adjust for selection into the programmes, and it is highly likely that there was a selection effect due to the nature of recruitment into the programme.
81. Bozzer <i>et al</i> (n.d.) CANADA	Vocational rehabilitation 1998	Controlled cohort study (n=80)	Quantitative 8	Competitive employment rates increased from 5% prior to programme to 8% post and 22% at 6 months follow up. Employment rate declined in control group. The control group only consisted of 18 people who were on the waiting list for the intervention, however, which prevented the drawing of conclusions about impact of the intervention.

82. Høgelund & Holm (2002)	Educational rehabilitation 1995-2000	Longitudinal panel data – 433 long-term sick-listed with back pain diagnoses	Quantitative 1,3,4,6,7,9	Starting on an educational programme had, as expected, a weak not-significant “locking-in” effect, reducing the hazard rate of returning to the previous employer (HR (SD)= -0.273 (0.632), while finishing the educational programme had a weak positive effect (0.461 (0.747)). The pattern for returning to work with a new employer was similar but more pronounced: with a hazard rate for starting on an educational programme being significantly negative (- 2.320 (0,735) and finishing the programme significantly positive (2.623 (0.740)). The sum of the two effects was in both cases slightly positive. The authors noted that selection of the healthiest and previously best educated into educational measures (‘cream skimming’) undermined the policy’s aim of helping the sick-listed with low employability into work.
DENMARK				
83. Høgelund & Holm (2006b)	Educational rehabilitation 1995 - 2000	Longitudinal panel data – 671 long-term sick-listed	Quantitative 1,3,4,6,7,9	Positive and significant employment effect for those who had completed an educational measure (hazard rate 0.756, p=0.001), but the effect was small and limited to return to work with the same or lower wage. Also found strong evidence of cream skimming into programme.
DENMARK				
84. Aavik (2001) NORWAY	Educational rehabilitation 1989-1993	Econometric - retrospective cohort 4416 VR clients (2,908 in intervention group, 1508 in internal control group)	Quantitative 1,2,6,7,8,9	Effectiveness of training program in raising employment among the participants was positive and significantly different from zero at the 1% level (average effect was 6.3%) however, highest effect was found amongst those groups with lowest probability of entering training and highest employment rates without training were in the strata with highest probability of participating, which indicates selection process or cream skimming.
85. Aavik (2003) NORWAY	Educational rehabilitation 1989 - 1991	Econometric – retrospective cohort based on random sample of 1506 VR applicants (277 in treatment group, 1229 in internal comparison)	Quantitative 1,2,6,7,8,9	Models for employment effects of education show estimates varying from 2.4% in 1991 to 1.5% in 1993. Unobserved heterogeneity and selection bias – chances of participating in training were significantly higher for younger people, those with higher education, those with more work experience, women and those in areas with higher levels of local unemployment - the effect of selection bias was negative, but these effects are estimated with large standard errors.

<p>86. Aavik <i>et al</i> (2005) NORWAY</p>	<p>Educational rehabilitation 1989 - 1993</p>	<p>Econometric – retrospective cohort based on 10% random sample of all female VR applicants in 1989 (n=1,924, 1,244 treatment, 680 internal comparison)</p>	<p>Quantitative 1,2,6,7,8,9</p>	<p>Individuals participating in the VR programme differed significantly from eligible non-participants: had a greater probability of participation if they had favourable characteristics associated with employment, such as being young, having no children and being well-educated. Given the presence of children, people with older education, no children, high working experience and individuals with high education, high previous income had the best chances of employment; young children decreased the probability of employment. Estimating treatment effects – average treatment affect (ATE) = -0.014, treatment of treated (TT) = -0.11 – so for the entire population, the programme had a slight negative effect, but had a stronger negative effect for those who were selected into the programme.</p>
<p>87. Frolich <i>et al</i> (2004) SWEDEN</p>	<p>Vocational rehabilitation 1991 - 1994</p>	<p>Econometric – retrospective cohort n=6287, (3,087 treatment, 3,200 internal comparison)</p>	<p>Quantitative 1,2,6,7,8,9</p>	<p>Individuals who had undertaken passive, educational and medical rehabilitation reduced their employment chances by about 12, 19 and 18 percentage points (p<0.05) respectively compared to those who had not undertaken rehabilitation. Similarly, educational rehabilitation worsened re-employment chances by more than 10 percentage points compared to workplace, medical and social rehabilitation (p<0.05). Negative effects of passive, medical and workplace rehabilitation relative to no rehabilitation were largely attributable to the prolongation of registered sickness due to the process of rehabilitation. In contrast, the negative effects of the educational rehabilitation appeared to be real and were directly attributable to a deterioration of immediate employment chances because of the rehabilitation. There was selection of the most difficult cases into the educational rehabilitation group and possibly also some stigma-related discrimination associated with this group.</p>

88. Ahlgren & Hammarstrom 1999 SWEDEN	Vocational rehabilitation 1990-1994	Cross sectional survey with follow up, n=266 (131 low intensity rehab group, 131, high intensity rehab group).	Quantitative 1,3,4,5,6,7,8,9,	No evidence of increased return to work in HIRG group, except for men (OR 1.83 95% CI 1.07-3.10) and women with musculoskeletal disorders, but this not related to improved rehabilitation; other factors influential, such as introduction of stricter criteria for judging work-related injuries, lowered sickness benefit levels, increased unemployment. Better educated women were less likely to return to work, suggesting, according to the authors, that women's occupations more difficult to make adjustments to, and rehabilitation fails to take women's greater domestic role into account – may also suggest that men's conditions taken more seriously than women's.
89. Lindwall 2006 SWEDEN	Vocational rehabilitation 1999-2003	Econometric analysis of administrative data on 15,000 long-term sick-listed cases	Quantitative 1,3,4,6,7,9	Factors that increase the onset of vocational rehabilitation: young, born in Sweden, employed, full-time sick listed, not on the waiting list for medical treatment. Factors that increase return to work: employed young man born in Sweden, full-time sick listed and no previous long-term sickness absence period, not on the waiting list for medical treatment. The effect of vocational rehabilitation increases return to work by 8 percent. The positive effects are strongest for measures such as work training and vocational education; and for men and younger people in general.
90. Selander <i>et al</i> 1999 SWEDEN	Vocational rehabilitation	Matched case study using administrative data of long-term sick listed who had undergone VR [employed n = 321, unemployed n = 62] matched to 383 sick listed without VR	Quantitative 2,4,6,7,8,9	Salander et al (1999) examined the effect of vocational rehabilitation on later sick leave for employed and unemployed people on long-term sick. The hypotheses were (1) that people who underwent rehabilitation, both employed and unemployed, would have less subsequent sick leave than those who did not, and (2) that rehabilitation would affect employed people more than unemployed people. These hypotheses were only partially supported. The results indicated that vocational rehabilitation had a positive effect on later sick leave only for unemployed men. For unemployed women the effect was negative and for those employed, both men and women, rehabilitation had no demonstrable effect.

91. Griffiths <i>et al</i> (2007) UK	Residential Training (RT) 2006	Case studies of all 11 training providers comprising 210 in-depth qualitative interviews RT customers and staff, Jobcentre Plus staff and DWP policy staff	Quantitative 1,2,3,4,6,7	40% of those interviewed had secured work since leaving RT, this lower than in 2002/03. Staff claimed this was because customers with more complex needs are now being referred to RT. Large variation in outcomes between colleges and between courses. Evidence indicated that RT was most beneficial to those with mild to moderate mental health conditions, especially in terms of re-integrating into work, but not for those with more serious mental health conditions. Location of most RT centres in southern England restricted access for eligible people in other areas.
92. Maton <i>et al</i> (2000) UK	Residential Training 1999/2000	150 (out of 475) records of ex-trainees +88 interviews with current trainees, all 14 training providers	See Bamba <i>et al</i> (2005)	After 18 months, 50% of ex-trainees in employment (two-thirds in work for a year or more); 9% in education/training programmes; 41% no outcome. Bias in provision of training towards SE England
93. Riddell <i>et al</i> (2002) UK	Work Preparation 1998/1999	2381 admin. records of all participants in Scotland +21 case studies of participants and key informants	See Bamba <i>et al</i> (2005)	13 weeks after participation: 20.8% employment, 24% education/training programmes, 55.1% no outcome. Those with mental health conditions were less likely to participate and to gain employment after participation.
94. Banks <i>et al</i> (2002) UK	Work Preparation 2000/2001	2823 admin. records of clients in 3 regions, +postal survey of 122 providers, + 4 focus groups, 21 tele-interviews with key informants	See Bamba <i>et al</i> (2005)	After participation 18.5% employment, 12.3% education/training programmes. No significant differences by health condition.
95. Hills <i>et al</i> (2001) UK	New Deal Innovative Schemes Pilots 1998/2000	Monitoring data on all 24schemes (1332 clients)+qualitative interviews with managers, staff, clients, employers	See Bamba <i>et al</i> (2005)	10 schemes after 2 years, average percentage of clients placed in employment 39%. 14 schemes after one year, average percentage of clients placed in employment 26%.

^aNumbers in this column signify the critical appraisal criteria outlined in Box 1 that the studies were deemed to have met.

Table A4.8. Health management advice/activities.

Study	Programme and year of evaluation	Study Details	Critical appraisal ^a	Results
96. Håland Haldorsen <i>et al</i> (2002) NORWAY	Multidisciplinary medical rehabilitation 1996-97	Randomized controlled trial. 654 permanently employed individuals either sick-listed at more than 50% for over eight weeks or at least 2 months per year in the last 2 years with musculoskeletal pain assigned to one of three treatments. 14 month follow-up	Quantitative 1,2,5,6,7,8,9	Categorised patients into three groups differing in prognosis score (poor, medium and good) based on a brief screening instrument. They were then randomly assigned to one of three treatment programmes with different levels of intensity (ordinary rehabilitation, light multidisciplinary, and extensive multidisciplinary rehabilitation). Return-to-work data were collected in 14 months of follow-up from the national sickness insurance records (thereby avoiding problems with sample attrition that many randomised follow-up studies in this field suffer from). Patients who entered the rehabilitation programme with good prognosis for return to work did equally well with ordinary treatment as with the two more intensive treatments. Patients with medium prognosis benefited equally from the two multidisciplinary treatments. Patients with poor prognosis for return to work receiving extensive multidisciplinary treatment returned to work at a higher rate than patients with poor prognosis receiving ordinary treatment, 55 vs. 37%, (p<0:05) after 14 months. The authors conclude that multidisciplinary treatment was effective concerning return to work, when given to patients who were most likely to benefit from that treatment, and the simple screening instrument may be a useful clinical tool for allocating patients with musculoskeletal pain to the right level of treatment. Self-selection into the study was an issue, as only 33% of those invited agreed to participate in the study. The non-participants were more similar to the participants with good prognosis for return to work. From this and other comparisons, the authors inferred that non-participants were, on average, healthier than those who volunteered to participate in the RCT. Self-selection may therefore not be a major problem in this study, the authors reasoned, as those who dropped out of participation had characteristics that were similar to those who do not benefit from the treatment.

97. Jensen <i>et al</i> (2001)	Behavioural medicine rehabilitation	2001 - 2004	Randomized controlled trial of 214 sick-listed employees with spinal pain assigned to one of four treatments. 3 year follow-up	Quantitative 2, 4, 5, 6, 7, 9	Subjects were randomised to one of four conditions: behaviour-oriented physiotherapy (PT), cognitive behavioural therapy (CBT), behavioural medicine rehabilitation consisting of PT+CBT (BM) and the control group (CG). The consistent results showed that the full-time BM programme was superior to the three other conditions in reducing subsequent sick leave. The strongest effect was found for women. The mean difference in the per-protocol analysis between the BM programme and the control group was 201 days, thus reducing sick leave by about two-thirds of a working year. The conclusion from a cost-effectiveness analysis on these findings was that a full-time behavioural medicine programme is a cost-effective method for improving health and increasing return to work in women working in blue-collar or service/care occupations and suffering from back/neck pain. This is an important finding in terms of identifying an intervention that is effective specifically for less-skilled socioeconomic groups.
99. Barnes & Hudson (2006b)	PTW – <i>Condition Management Programme</i>	2005	37 in-depth interviews with CMP practitioners, co-ordinators and managers across the seven pilot areas	Quantitative 1,2,4,6,7	Practitioners reported full spectrum of progress from gaining employment to not engaging – noted that successful outcomes were a result of both CMP and Jobcentre Plus interventions – those not progressing needed more specialist help. Practitioners were selecting only those who they felt would benefit in the long term, as these were viewed as more suitable for the service.
43. Corden <i>et al</i> (2005)	PTW – <i>Condition Management Programme</i>	2004-2006	Longitudinal qualitative panel study with 3 cohorts totalling 105 IB recipients in the first seven UK pilot areas. Three individual interviews per recipient.	Qualitative 1,2,3,4,5,7	Over three cohorts CMP positively viewed but relatively little take up and evidence of a lack of understanding of the purpose of CMP (supported by Barnes & Hudson 2006b). Amongst those who had returned to work views of the role of the CMPs were mixed with only some accrediting it to the programme. Some indications that specific condition CMPs were generally more influential on movement to work and improving conditions than the generic schemes.
44. Corden & Nice (2006a)					
45. Corden & Nice (2006b) ¹					
UK					

46. Dickens <i>et al</i> (2004a)	PTW – <i>Condition Management Programme</i>	49 in-depth interviews with IBPAs and 7 work psychologists plus 10 focus groups with IBPAs over two waves in seven pilot areas	Qualitative 1,2,3,4,6,7	Levels of referral to CMP by IBPAs varied, by second wave understanding and knowledge of CMP among IBPAs had improved leading to more referrals, though some only referring customers with complex conditions, and some referring customers closest to labour market to IBs. IBPAs very positive about CMP describing it as ‘fantastic’, ‘positive’, ‘really useful’ (2005: 76); also as key to moving forward those customers not yet ready to consider work, but prepared to receive help and support to overcome initial barriers.
47. Knight <i>et al</i> (2005) ¹ UK	2004 - 2005			
75. Dixon <i>et al</i> (2007) ² UK	PTW – <i>Condition Management Programme</i> 2006	30 in-depth interviews with matched IBPAs (13) and IB customers (17) following observations of WFIs	Qualitative 1,2,3,4,7	CMP viewed by IBPAs as most appropriate referral option for stock customers as managing their health condition was viewed as first step toward employment. IBPAs more confident about referrals than in previous reports, but still evidence of a lack of clarity in referrals due to poor knowledge of health conditions (esp. mental) and how CMP operates. Customers largely positive, but still did not feel closer to employment.

³Numbers in this column signify the critical appraisal criteria outlined in Box 1 that the studies were deemed to have met.

¹These studies also evaluate in work benefits and case management interventions (see Tables 5 and 7 respectively)

²This study also evaluates case management.

Full citations for studies included in review (numbers refer to numbers in tables A4.1-A4.8)

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