

The Economics of Health

A research report prepared for *emda*

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1 May 2008

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1 May 2008

The Economics of Health (TRN191)

Report submitted to the East Midlands Development Agency (emda)

by

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1 May 2008

This report was prepared for the East Midlands Development Agency (emda). The views and opinions of the authors expressed in this report do not necessarily state or reflect those of emda.

The support from and discussions with the steering group for this project are gratefully acknowledged. We would especially like to thank:

East Midlands Development Agency (emda)

East Midlands Public Health Observatory (EMPHO)

Care Services Improvement Partnership (CSIP)

Regional Public Health Group of the Government Office for the East Midlands (GOEM)

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Executive Summary

This report presents results from the *Economics of Health* project funded by the East Midlands Development Agency. The work was undertaken between November 2007 and February 2008. The main aim of the project was to examine the relationship between mental and physical health and employability, labour market participation and economic performance, with specific attention given to the direction of causal relationships.

This project required a literature review to assess the linkages between health and employability, labour market and general economic performance. Research also involved secondary analysis of existing data. The challenge of this project was to combine social science and health science, quantitative and qualitative data to gain an understanding of the numerous factors that affect health and therefore also employment.

The literature in this area emphasises the importance of individual and group differentiation, working conditions and social and economic context. Despite restrictions, we have found some persistent and complex problems relating in particular to the three sub-groups we focused on for this project: employees with ill-health; the unemployed and economically inactive for whom health might act as a barrier to re-employment.

A European comparison further highlighted the importance of working conditions. The initial picture shows health problems reported in the UK to be significantly lower compared to other EU-15 countries but, on closer examination, sleeping problems, anxiety, and respiratory problems are especially prominent in the UK.

The ‘passive work organisation model’ with low demands and low control which characterises the UK also applies well to the East Midlands which has been described as a low skills equilibrium in which relatively low demands/intensity might be accompanied by relatively low worker autonomy as well as low pay. Such lowered autonomy seems linked to poor health. This comparative approach has emphasised the importance of the overall economic strategy, specific workplace interventions as well as the infrastructure in place for individuals wanting to return to work.

In the East Midlands up to 22.7 per cent of the working population have a limiting longstanding illness while a further 19.4 per cent have a non-limiting longstanding illness¹. A little over half (51.7%) state that their health problems had an effect on the kind of work they were able to do, while 43.9 per cent said this affected the amount of work they could do². Health problems thus impact on how many people are available to the East Midlands economy but also on what work they can do and what hours they can work.

The East Midlands is a high employment region and this is reflected in the 75.9 per cent economic activity rate calculated from the combined four waves of the Labour Force Survey (LFS) (October 2006 to September 2007) used in this study. Only 2.5

¹ Calculated from the Health Survey for England.

² Here and in the following, the source is the Labour Force Survey October 2006 – September 2007 (Working Age Population only).

per cent of respondents from the region had days off, though there are indications that this rate is higher in the main cities. The majority of workers (42.5%) only take one day off when they are ill. Based on the reference weeks for the LFS, the East Midlands economy loses 5,798,820 working days each year due to ill-health of workers.

Unemployment in the East Midlands is comparatively low at 4.3 per cent though when considering 'hidden' or 'real' levels of unemployment, areas such as Nottingham and the former coalfields have unemployment rates of up to 15 per cent. Proportionally, more people in the East Midlands claim benefits related to sickness or disability than in the UK, especially Invalid Care Allowance (ICA) (10.7% in the East Midlands and 7.9% for the UK). Health problems thus not only affect the individual directly but also have secondary effects on carers' ability to be economically active.

There is a steady increase of the economically inactive group with age, with the largest group (23.3%) in the 55-59 age group. In addition to age, reasons for economic inactivity include looking after a family home (172,000 individuals) and long-term sickness or disability (161,000 individuals). It could be speculated that those looking after a family home are more likely to be women/mothers but we did not find any significant impact of gender or ethnicity on the incidence of being economically inactive due to ill-health. When the economically inactive due to ill-health sample is analysed by the sector they worked in their last job, more than a third of this group (26.4%) in the East Midlands worked in manufacturing. The largest group (24.3%) worked in elementary occupations, closely followed by process plant and machine operatives (19.3%). Despite the decline of manufacturing, this sector continues to have a significant impact on the region.

There seems to be a regional north-south divide with higher incidents of reported poor health especially in the former coalfields and some rural parts of the Lincolnshire coast. In the East Midlands as a whole, heart (14.4%), chest and breathing (14.1%) and back and neck problems (13.6%) are the most commonly reported problems. Heart problems are much more prevalent in the over 50s but those reporting chest and breathing problems are more likely to be in younger age groups.

Based on the LFS data we drew on, the East Midlands has a comparatively low rate of incidents of depression, bad nerves and mental illnesses (6.6%) though these findings differ significantly from previous research, so further investigation would be advisable. Poor mental health tends to result from, rather than predisposes to, unemployment but overall the association of unemployment and mental disorder is sequential and reciprocal.

Based on the LFS, we calculated an annual loss of 5,798,820 working days for the East Midlands. This would translate into a maximum loss of output to the East Midlands economy of £802 million per year. For the unemployed, the total approximate cost to the economy of an individual not being available for work for an average of five years because they are on Incapacity Benefit (IB) is £84,910. The same figure applies to an individual who cares for a person with a disability.

The continuum approach outlined in this report is a useful way to consider the range of engagements with the labour market that is evident in locations across the East

Midlands. In this context, the positive or negative impact of employment, unemployment and economic inactivity depend on the quality of employment or other activities. Quality of work has a positive effect on health overall, including the likelihood that a return into employment is pursued. The causal relationships between mental and physical health, employment and productivity, as well as the importance of good working conditions are thus highlighted.

The variety of socio-economic contexts of those living and/or working in the East Midlands calls for a more detailed investigation into their respective understandings of health and employability. This is especially true for the suburban areas where we have virtually no information on the relationship between employability and health but also for industrial towns where our knowledge is very patchy. Although we know more about the problems and opportunities in the former coalfields, the cities and the mainly rural areas, more could be done to address the links between employment and health in these specific contexts.

A more fundamental problem is a supply-side oriented or workfare driven approach that does not take into consideration the lack of jobs, especially good jobs, in the East Midlands. This problem could be reinforced by the privatisation of labour market services. There is recognition that it is essential to address the multiple and complex barriers to employability and provide co-operation, early intervention and localisation via support structures. Privatisation, however, also holds the danger of ‘creaming’ clients without providing adequate services to individuals that are most difficult to place in the labour market. Attention should therefore be paid to how privatisation is implemented to ensure differentiated and tailored service for all groups.

Despite the difficult policy context, we recommend both work-based interventions and means by which to support those re-entering or integrating into the labour market. Health should be established as a key consideration in regional employment, skills and economic inclusion policies. Sectors and individual employers that value health provision should be prioritised by regional partners, as such considerations are indicative of ‘quality jobs’ in the region. Such jobs with increased control and autonomy are likely to have positive health outcomes as well as contribute to greater flexibility, commitment and innovation in the workplace. As there is a dearth of knowledge on what are ‘good jobs’, specifications should be developed through qualitative research, profiling regional business champions and top 100 companies. Tripartite working agreements could support health to be a central consideration of working conditions. The Jobs Pledge and Local Employment and Skills Boards are examples where employers, public sector employment and skills services, and trade unions have arrangements in place to promote the economic benefits of a focus on health considerations in the workforce. The potential benefits to individuals, employers and the state are considerable and could include: a decrease in the cost associated with lost output due to sickness absence/inactivity; improved employment satisfaction amongst workers which could extend individuals’ working lives; and, as a potential result of the two former points, more innovative and effective development and adoption of new products, services and processes.

To achieve Government aims on employment it will be important to encourage individuals to re-enter the labour market and be integrated into the workforce. Local, multi-agency employment teams would be able to target those outside, or on the

margins of, the labour market. They could be supported by improved knowledge on collaboration between established formal and informal services. For carers and benefit recipients of Incapacity Benefit Allowance (ICA) outside of the labour market, workplace policies (including flexible leave policies and supportive environments) are vital to encourage economic activity. This can be reinforced by providing clear and accessible information for employers, employees and carers regarding provisions and support available. To develop further locally specific and targeted interventions based on an improved understanding of the sub-regional level, disaggregated and comparable statistics are required.

1. Introduction

The main aim of the emda funded *Economics of Health* project was to examine the relationship between mental and physical health and employability; labour market participation and economic performance, with specific attention given to the direction of causal relationships. This subject matter is highly topical in light of recent public debates (Freud 2007, Willmott 2008), especially regarding the tightening of eligibility conditions for unemployment benefits (Wintour 2008) and the pressure on GPs to provide more advice to patients about how they might return to work and what work they can undertake (BBC 2008a, Philpott, Davies 2007, ePolitix 2008) as well as the most recent news that, at £100bn, ill-health costs the economy the equivalent of running the NHS for a year (BBC 2008b).

There is a considerable body of research on the relationship between health and labour market participation (see *inter alia* Warr 1987), including mental health (Anthony, Jansen 1984, Jenkins 1994), the interrelationship with unemployment (Bellaby, Bellaby 1999), the importance of task discretion and work effort on well-being (Green 2004b) and research specifically on the East Midlands (Beatty, Fothergill et al. 2004). There have been suggestions (Beatty, Fothergill 2007, Beatty, Fothergill et al. 2002) that real unemployment levels in the East Midlands are three times higher than the claimant count, with the largest group of the hidden unemployed receiving sickness benefits. Nationally, the Department for Work and Pensions (DWP 2007) identifies over three million people of working age on benefits, mainly on Incapacity Benefits (IB). With IB being replaced by the Employment and Support Allowance (ESA) in 2008, employability skills will become crucial for those to be moved onto a 'work-related activity component' because they are judged able to move towards work (DWP 2007, EC 2007). Here, factors influencing employability are varied and include demand and supply-side factors; union density; labour taxes; employment protection; unemployment benefits; retirement systems as well as health, well-being, and personal circumstances (Genre, Romez-Salvador, R. and Lamo, A. 2005, McQuaid 2006).

In light of such background information and (recent) developments, this report investigates the meaning and possible implications of policies. The overall remit for this project was very clear and focused. In particular, this project aimed to:

- Identify sub-groups affected by ill-health as a barrier to employability;
- Analyse available data on the linkages between mental and physical health and employability in the East Midlands, including sub-regional analysis to identify disparities within the region;
- Estimate the cost of sickness absence in the East Midlands economy;
- Advise on data sources to be used in addressing research questions;
- Give policy recommendations to address ill-health as a barrier to employability and to improve the health of the region's workforce.

The literature reviewed tends to suggest that work is generally good for health and well-being both for those in work and those who might be able to return to the labour market despite health issues (Waddell, Burton 2006). Our approach is in line with evidence for a reciprocal causal relationship between work and health: healthy individuals are more likely to seek, obtain and remain in employment ('healthy

worker effect') whilst work can have a valuable social role and beneficial consequences for health ('social causation hypothesis') (Adelmann, Antonucci et al. 1990). For this project, we were also asked to pay particular attention to the direction of causal relationships, the means by which to quantify associations, for example via the cost of sickness absence and long-term unavailability to the labour market. Despite the overall positive literature on the impact work has on health, it is essential to consider that not all individuals respond in the same way, that the characteristics of work are crucial and that the social context has a considerable influence that we are not always in a position to fully understand (Waddell, Burton 2006).

In light of current developments, the literature and crucial discussions as well as some of the limitations we faced, there were three key groups that are of particular importance to the issues of mental and physical health and employability, labour market participation and economic performance:

- i. those in employment whose economic performance is reduced due to ill-health;
- ii. the unemployed who may face barriers to employment due to health issues; and,
- iii. the economically inactive who could face barriers as a result of health issues if they tried to re-enter the labour market.

By investigating these three groups, we aim to address some group and individual effects and variations (Waddell, Burton 2006). We first of all contextualise this within a European comparison before outlining our methodology, approach and findings. A striking difference when considering the UK in comparative perspective is that the health problems reported in the UK are significantly lower compared to other EU-15 countries (Parent-Thirion, Fernandez Macias et al. 2007). Apart from respiratory difficulties, sleeping problems, and anxiety, for example, the UK values for reported health problems lie between one third and one half of the EU-15 average. However, there are a number of issues outlined by Parent-Thirion, Fernandez Macias et al. (2007) that give rise to a more differentiated picture

- First, there is no straightforward relationship between the perceived risks to health and the perception of the sustainability of the working environment.
- Second, the perception of health risks is not necessarily translated into absences from work.
- Third, there are no parallels between the number of workers who recorded health-related absences from work and the number of days they were absent.
- Finally, across the EU-15 backache, stress, and muscular pains constitute the most prevalent three conditions. When put in relation to the EU-15 average, however, sleeping problems, anxiety, and respiratory problems top the UK list.

Following indications from the European Working Conditions Survey (see Parent-Thirion, Fernandez Macias et al. 2007), the relatively high values for stress, depression, and anxiety in the UK do stand out. They are 125.2 per cent above the EU average while the total prevalence rate of work-related health problems in the UK is at 77.5 per cent of the EU average.

European data shows that an important relationship concerns that between health, work organisation and work intensity. While this has not been tested directly in a comparative perspective, the link between psychological demands emanating from work on the one hand, and the degree of control and autonomy of workers on the other, has been highlighted (Gimeno, Benavides et al. 2004, Karasek Jr 1979, Parent-Thirion, Fernandez Macias et al. 2007)³. Four categories of work organisation have been developed to consider the demands placed on workers and the control they have over their work environment (Parent-Thirion, Fernandez Macias et al. 2007, 59):

- i. *active work organisation* (high demands and high control);
- ii. *high-strain work organisation* (high demands and low control);
- iii. *low-strain work organisation* (low demands and high control); and
- iv. *passive work organisation* (low demands and low control).

Following this model, the UK is placed in the ‘passive work organisation’ model with relatively low demands and/or intensity. This particular setting is also accompanied by relatively low worker autonomy. Interestingly, plotting the same model by sector and occupation, Parent-Thirion, Fernandez Macias et al. (2007) put unskilled workers, service and sales workers, and wholesale and retail trade under the category of ‘passive work organisation’, which meets important features of the UK economy. Some of these characteristics also apply to the sectors and occupations typical for the East Midlands and we consider this in more detail in the policy section towards the end of this report.

Following the introduction we have just provided, we now outline our methodology in which we also provide definitions utilised for concepts such as employability and health, consider some (sub-) regional characteristics, and present the continuum approach. The main body of the report then presents our findings. These are structured first according to our three main groups, dealing in turn with the employed, the unemployed and the economically inactive. We also present more information on specific, common health problems and discuss disability and long-standing illness as a problem for employability. Summarising some of the work from these sections, we bring together the calculations of the cost of health. This is followed by a discussion of how employability and health as well as economic performance are interrelated, what the causal relationships are between them and how it would be useful to consider these issues on the continuum between employment and economic inactivity. Finally, we provide policy considerations and recommendations before concluding.

³ Parent-Thirion, Fernandez Macias et al. (2007, 59) indicate that the basic hypothesis of this model was “that the negative health outcomes of stress occur most often when the worker has to face high levels of psychological demands, but has low levels of autonomy at work: psychological demands create stress; if the worker cannot channel this stress because of their low levels of control, this ‘unreleased’ stress accumulates and has a negative impact on health, job satisfaction, etc.” In turn, autonomy at work is looked at via, amongst others, five key indicators: “[t]hree of these indicators have to do with the worker’s freedom to exercise control over the work process (the ability to choose or change the order of tasks, the methods of work and the speed or rate of work); the fourth refers to the influence the worker has over the choice of working partners, and the fifth concerns the ability of the worker to interrupt their work in order to take a short break, when they wish.” (Parent-Thirion, Fernandez Macias et al. 2007, 51)

2. Methodology

The *Economics of Health* project required a literature review to assess the linkages between health and employability, labour market and general economic performance. Research also involved secondary analysis of existing data. The overall methodology utilised in this project was phenomenological to accommodate the interdisciplinary nature necessary to gain a holistic overview of the relationship between health and employability. We thus considered literature from a range of relevant areas: economics; sociology of work and skills; (occupational) psychology; social policy; (human) geography; and the health sciences. The challenge of this project was to combine social science and health science, quantitative and qualitative data to gain an understanding of the numerous factors that affect health and therefore also employment. The method of data collection necessitated a careful scrutiny of all materials utilised to ensure a high quality of sources, or, at least, a critical approach to different sources.

Our search strategy spanned different disciplinary sources and included academic and non-academic literature. Electronic databases were searched to locate articles showing links between health, disability and employment. These included databases in the health and medicine field and in the social sciences which are listed in Appendix 1. Individual search strategies were devised for each database and searches were conducted between December 2007 and January 2008. In the health databases, two search strategies were used, one which concentrated on costs of health and employment and one which concentrated on chronic illnesses, costs and employment/unemployment. A full search strategy for the Medline database can be seen in Appendix 1. In the social sciences, searches were conducted using the keywords: health, ill-health, mental health, well-being and disability combined with employability, labour market participation, unemployment, underemployment and economy. No geographical limits were set. It was not possible to confine these searches to a sub-national region of the United Kingdom. To find reports which related to the East Midlands in particular searches were conducted on the web (see Appendix 1 for sites of relevant organisations' websites).

In addition to the literature, we drew on key statistical data, above all the Labour Force Survey (LFS), the Health Survey for England and the Annual Survey of Hours and Earnings. Only where the LFS did not provide the specific questions required did we use other statistical sources and materials. The LFS is a large scale government survey carried out 4 times a year by the Office of National Statistics. The survey works using 'sweeps' of around 20,000 people who will be interviewed for five consecutive quarters to gather longer term, consistent data and in any one quarter there are five different sweeps participating in the survey. This leads to an overall sample of more than 100,000 people. To counter seasonal variation and make the sample bigger and more reliable, we combined the last four sweeps of the LFS (October 2006 to September 2007) to give a picture based on 12 months worth of data. An alternative approach would have been to use the annual LFS survey but this does not contain detailed health questions so would not have given us the same amount of detail.

The total UK working age population of our sample was 280,639. Split by Government Office Regions, the working age sample for the East Midlands was

21,387 people. The regional ONS team also gave us access to sub-regional data not normally publicly available, which allowed us to look in more detail at differences below Government Office Region boundaries. Where we draw on this data, we can provide no more statistical detail than the raw data itself.

A problem faced in undertaking this research is that of definitions, in that the issues under consideration, including employability and health, are not clearly defined and used in different ways in the literature. It is therefore necessary to provide an outline of our understanding of these concepts.

2.1 The concept of employability

Generally, employability is “the capability of getting and keeping satisfactory work” (Tamkin, Hillage 1999, 11). Tamkin and Hillage suggest that there are four components to this definition:

1. individual assets (knowledge, skills, personal attributes and attitudes);
2. marketing and deployment skills (including job search and career management skills);
3. presentation and the personal;
4. and labour market context.

The relationship between these four components, however, has been poorly defined, thus reinforcing the need for research into the relationships between aspects such as health and employability. The above differentiation also leads to a variety of debates on different aspects of employability, such as: those that emphasise flexibility, including working conditions; consider the demand and/or supply-side of employment; touch on the skills debate; and individualisation processes in learning and skill acquisition. Although this project will be focusing on the supply-side, we need to acknowledge that employability is a far broader concept (McQuaid, Green et al. 2005). A further aspect to be considered is that changing patterns of labour and skill demand constitute moving targets (Bosch 2005), which may enable employers and policy makers to utilise employability to their advantage. Emerging and more complex understandings of employability therefore critique the discourse of individual responsibility that encapsulates much of the debate in this field. Similar critique can be voiced with regards to individualisation of health problems in employment. Moreau and Leathwood (2006) go as far as suggesting that the emphasis on individual responsibility and neglect of social inequalities associated with employability could have potentially damaging consequences.

Overall, employability is thus a well-used but poorly defined concept that can mean very different things in different contexts. For the purpose of this report where we are mainly concerned with: those who are in employment but may suffer reduced capabilities due to ill-health; those who are unemployed due to ill-health; and those who are economically inactive, possibly due to ill-health, we require a broad understanding of employability. We therefore use it to mean getting and keeping satisfactory work with as little ‘interference’ as possible from any health issues, illnesses or disabilities. The following outline of our understanding of health indicates how broad a concept employability therefore still is.

2.2 The concept of health

According to the World Health Organisation (WHO 1948), health is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. This definition suggests the breadth of issues that should be included when considering the impact of health on employability, labour market participation, and economic performance. The importance of the nation’s health and related services was highlighted by the level of funding announced in the 2007 Comprehensive Spending Review which was to increase the NHS budget by 4 per cent per year in real terms over the next three years (HMT, DH 2007).

Overall, statistics show reasonable levels of health with 91 per cent of individuals in England and Wales reporting good/fairly good health but there are a number of factors that have a clear impact, in particular age, socio-economic classification measured by occupation, economic activity, region and locality, are highlighted (ONS 2004). These are all factors to be considered in our review. The health of individuals of working age who are out of work or who have never been in employment is especially poor. It is noteworthy that questions on general health and those on limiting long-term illness or disability seem to measure different dimensions of health: “Many people who rated their health as not good also reported having a limiting long-term illness or disability (85%). Conversely, only 43 per cent who reported limiting long-term illness or disability also said their health was not good” (ONS 2004). This also highlights a methodological problem in that we find different data depending on the source and the specific (survey) question.

In addition to the general issue of health, there is also the more specific concern about bad health caused or intensified by employment. The general intensification of work (Green 2004a) is seen to lead to higher levels of stress and anxiety with negative effects on economic performance and higher levels of absenteeism. This may have important implications in an environment of increasing job flexibility and non-permanent contracts although the relationship between actual frequent job change and health is less clear (Metcalf, Davey Smith et al. 2003, Rodriguez 2002). The nature of job change and preference for flexibility may nevertheless be important determinants (Silla, Gracia et al. 2005). Stress is the most common work-related health symptom, affecting 22% of European workers (Parent-Thirion, Fernandez Macias et al. 2007) and one in three of those claiming IB (DH 2006). In 1994, Jenkins (1994) put the cost to the NHS of treating depression and anxiety and other related non-psychotic conditions at £292,626,000⁴.

In reverse, the latent functions of employment (including time management, social contact, structure, meaningful activity) are considered beneficial and withdrawal, for example via unemployment, can result in negative health implications (cf. Jahoda 1982, Jahoda 1988) including changed behaviour regarding alcohol consumption, cigarette smoking and body weight (Montgomery, Bartley et al. 1996), a possible link with cardiovascular diseases (Weber, Lehnert 1997), suicide attempts (Beautrais, Joyce et al. 1998) and increased marital dissolution (Hansen 2005). In this short project it has not been possible to provide an overview of all these discussions and

⁴ This figure included hospital expenditure, GP consultations and outpatient referrals but not the sickness absence of the workers involved.

debates, but it is important to keep in mind that this is the context in which our work is located.

The range of aspects to be covered with regards to health directly influences the way in which employability is conceptualised in this project. Rather than using approaches that focus on the demand-side, we will be most interested in the supply-side analysis (e.g. McQuaid 2006) that directly links health and employability.

2.3 The regional perspective

Both the concept of employability and the concept of health need to be seen in a regional perspective. This is important to ensure that we are working with less abstract ideas of the concepts and will allow us to come to realistic policy recommendations. Whilst it is evident from the employment and unemployment data to be presented in the following sections that there is a clear north-south divide in the East Midlands, we follow suggestions that this is too superficial a categorisation. A possibly more useful and accurate breakdown of the East Midlands is into: cities; suburban areas; former coalfields; industrial towns; and mainly rural areas (Beatty, Fothergill et al. 2002) which we will utilise for our analysis. The following textbox outlines reasons for and allocations within this classification.

From this textbox it is evident that the East Midlands is a very mixed region with specific problems and opportunities in different locations. These provide an important context for the issues of employability and health that are to be discussed. Moreover, we are interested to consider whether there are indications that the patterns suggested on the basis of employment and general economic data can be traced in terms of the distribution of ill-health.

Textbox 1: Characteristics of East Midlands Sub-regions

Cities (Derby, Leicester, Nottingham) - The three main cities may have seen recent employment growth but this has occurred alongside continuing unemployment and deprivation. New jobs have often drawn in people with the requisite skills and attributes from a wider catchment area rather than from the local resident labour force.

Suburban (Erewash, Blaby, Oadby and Wigston, Broxtowe, Gedling, Rushcliffe) - This group encompasses the main areas of private housing on the fringes of the three main cities. The residents of these areas tend to be more prosperous than average and more mobile in their search for work. While the local economic base of these areas may be fairly weak, the suburbs provide good access to opportunities in the cities and other neighbouring areas.

Former Coalfields (Bolsover, Chesterfield, NE Derbyshire, NW Leicestershire, Ashfield, Bassetlaw, Mansfield, Newark and Sherwood) - Key features here are high levels of claimant unemployment and labour market detachment, lower skills and incomes and higher levels of deprivation. There is some employment growth but the new jobs are often in a restricted range of sectors and occupations, and often part-time, precarious and low wage. Some former coalfield areas (for example North West Leicestershire) appear to be adjusting better or more quickly than others and some of the more attractive parts of coalfield districts have seen in-movement of workers who commute elsewhere.

Industrial Towns (Amber Valley, High Peak, Charnwood, Hinckley and Bosworth, Lincoln, Corby, Kettering, Northampton, Wellingborough) - These cover a range of circumstances, with some towns (such as Northampton, Kettering and Wellingborough) faring well and overcoming the loss of traditional industries by the attraction of new services. Others (for example Corby and Lincoln) are tending to lag behind. The scale of new investment and development is smaller, and location away from the main growth corridors does not help.

Mainly rural (Derbyshire Dales, S Derbyshire, Harborough, Melton, Rutland, Boston, E Lindsey, N Kesteven, S Holland, S Kesteven, W Lindsey, Daventry, E Northamptonshire, S Northamptonshire) - Some of these districts feature tight labour markets with virtually full employment. However, the nature of labour demand across rural areas in the East Midlands varies. In parts of Lincolnshire there is evidence of continuing joblessness with the agricultural sector for example characterised by seasonal fluctuations in demand for labour and low wages. In the south of the region there are often labour shortages, attributable in part to the housing market and planning constraints.

Source: Beatty et al. (2002, n/a)

2.4 The continuum approach

In bringing together our approach to this project and the relationship between health and employment, we do not view employment and unemployment as separate factors affecting the health of individuals. Instead, we follow the literature (Dooley 2003,

Winefield 1993) that suggests a continuum that includes positive and negative types of employment, for example on the basis of working hours, income or skill use/requirement (Friedland, Price 2003), as well as various possible situations involving not working. Groups who work part-time involuntarily and the working poor, i.e. those working at poverty pay levels, provide examples of employment situations that are not positive (Dooley, Prause 2004, Peña-Casas, Latta 2004). The underemployment this stimulates is therefore comparable to the situation of the unemployed. Taking into consideration that employment as such, let alone 'good' employment, is not always an achievable outcome (Kiernan, Stark 1986), a broader range of involvement or association with the labour market should be acknowledged.

The flip side to 'negative' employment or underemployment is that individuals can have positive experiences of unemployment or economic inactivity. This understanding is based on social-environmental approaches that focus on the social implications of employment and unemployment. Categories in which the unemployed or inactive may be deprived can include: (i) the experience of time; (ii) the reduction of social contacts; (iii) the lack of participation in collective purposes; (iv) the absence of an acceptable status and its consequences for personal identity; and (v) the absence of regular activity (cf. Jahoda 1982, 1988, Jahoda, Lazarsfeld et al. 1971). The central notion is that the psychological distress associated with unemployment is due to the deprivation of these latent factors. In employment, however, they sustain well-being.

The important groundwork of Jahoda et al. has been developed further, in particular through 'Warr's Vitamin Model' (Warr 1987) which lists principle features of the environment as: (a) opportunity for control; (b) opportunity for skill use; (c) externally generated goals; (d) variety; (e) environmental clarity; (f) availability of money; (g) physical security; (i) opportunity for interpersonal contact; and (j) a valued social position (ibid, 3-8). In his view, mental health is influenced by the environment similar to the way vitamins influence physical health, hence the name "Warr's Vitamin Model". Although vitamins are a necessity, they are helpful only up to a certain saturation level. Exceeding that, some vitamins have no further influence at all whereas others have a negative impact if overdosed. The same distinctions are made for Warr's principle features of the environment with factors such as externally generated goals or regular activity that can be overdosed, especially when in employment. Working conditions are thus again highlighted as crucial. In contrast, it has been shown that a meaningful use of time when unemployed, for example via voluntary or other individually meaningful activities, can have a positive effect on health (Wanberg, Griffiths et al. 1997, Winefield, Tiggemann et al. 1992). The continuum approach to employment and unemployment thus allows us to consider different types of engagement with the labour market such as the considerable degree of hidden unemployment that exists in the East Midlands (Beatty, Fothergill et al. 2002, Beatty, Fothergill et al. 2007).

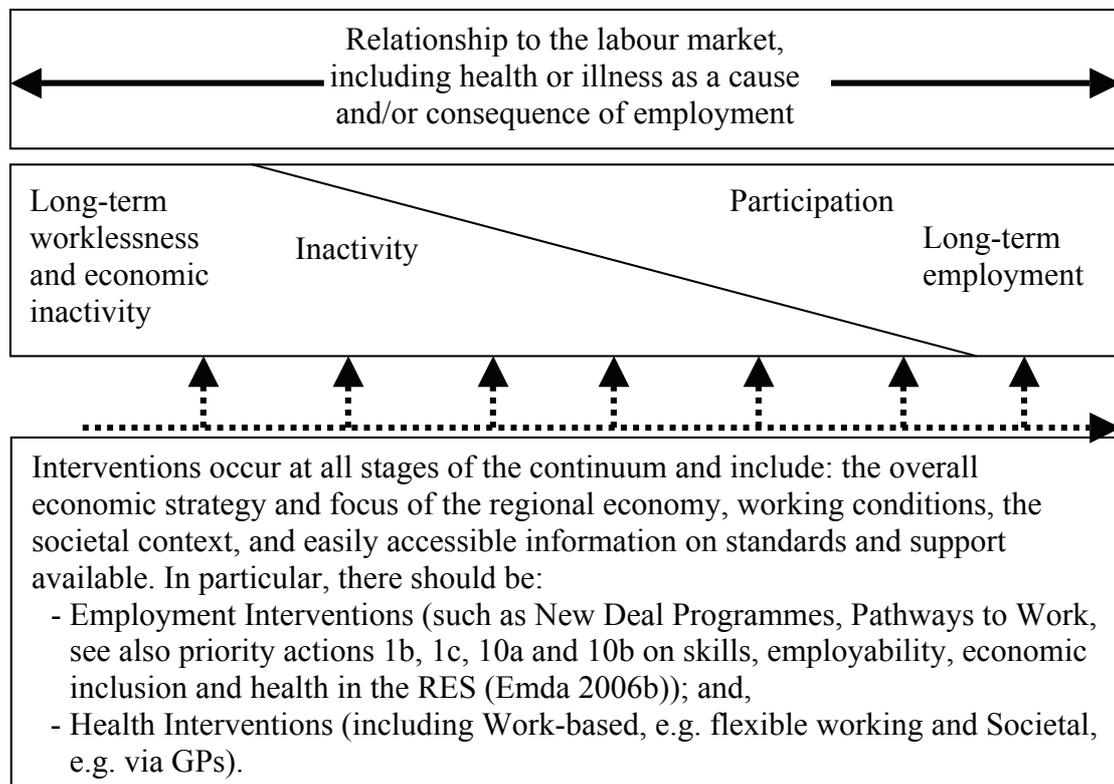
Stressors from both employment and unemployment can be divided into "eventful" and "chronic", for example the instance of losing a job would be eventful whereas long-term unemployment or the discouraged worker syndrome are chronic stressors (Friedland, Price 2003) thus also including usually discounted groups such as the hidden unemployed. Ferrie et al. (Ferrie 1999, Ferrie, Martikainen et al. 2001, Ferrie, Shipley et al. 2001, Ferrie, Shipley et al. 2005) have shown, through longitudinal studies of civil servants, that threat to employment status can have adverse

consequences on health status unrelated to health behaviours and that anticipated job loss can affect health before employment status has changed. Those who remain in employment whilst and after layoffs are occurring in their company, i.e. eventful stressors, tend to suffer high incidents of medically certified sickness absence due to: musculoskeletal symptoms and pain; lowered self-esteem; depression; anxiety; and emotional exhaustion (Kivimäki, Vahtera et al. 2003).

The following diagrammatic overview of the continuum approach thus incorporates our three groups:

- a) those in employment whose economic performance is reduced due to ill-health;
- b) the unemployed who may face barriers to employment due to health issues; and,
- c) the economically inactive who could face barriers as a result of health issues if they tried to re-enter the labour market.

Figure 1: The Employment Continuum



Adapted from: Booth, Francis et al. (2007).

The continuum approach further helps us understand the causal relationships between health and employment/employability. It has been reported that 5.2 per cent of people who have ever worked believe they have suffered an illness caused or made worse by their current or past work (Jones, Huxtable et al. 2005). The annual loss of approximately 1.3 days per worker that this results in is especially prevalent in certain industries (health and social work; public administration and defence; transport storage and communication; construction; etc.) and occupations (protective service occupations; health and social welfare associate professionals; skilled construction

and building trades; etc.). Initiatives to reduce the negative impact of work, such as health trainers or ‘ambassadors’ within workplaces, are said to deliver a return on investment of six to one by improving absenteeism and increasing productivity (Greenwood 2008, see also for examples Tehrani, Humpage et al. 2007). Whilst employment can have a negative effect on health, this effect can sometimes be reduced or neutralised.

In return, we know that unemployment can have substantial negative effects on health (Burchell 1994, Fryer 1992, Fryer, Fagen 2003, Jahoda 1988) and that re-employment can lead to an improved well-being. It has been shown (Strandh 2000), however, that the type of exit route from unemployment into employment is crucial, again highlighting the importance of the type and conditions of employment (Leana, Feldman 1995, Wanberg 1995). Control and autonomy, for example, are seen as improving well-being at work (Wood 2008). Job insecurity and reduced well-being have in turn been considered as predictors for later unemployment (Bildt, Michelsen 2003). There is thus an underlying hypothesis that individuals with health problems tend to lose their jobs more than healthy individuals and are also less likely to be reemployed. Good health in itself may be a determinant of long-term employment (Virtanen, Kivimaki et al. 2006). Other studies indicate that baseline health does not predict employment status (Vesalainen, Vuori 1999) though the same study did suggest that a level of psychological distress increases the perceived need for adjustment in a new job. Evidence on causal relationships between health and employment is thus complex and inconsistent.

One aspect to be considered in these causal relationships is the individual’s attachment to employment. The more attached a person is to employment, the more negative are the side effects of unemployment (Shamir 1986, Warr, Jackson 1985) and strong work involvement tends to result in more active job searching when unemployed (Claussen 1994, Rowley, Feather 1987, Schaufeli, Vanyperen 1993, Wanberg, Watt et al. 1996). The longer a spell of unemployment lasts, however, the more attachment to work might decrease (Warr, Jackson 1987). But because the unemployed tend to view and identify themselves in terms of their last employment situation, they often display stronger work attachment than the employed (Gallie, Vogler 1994). In regional terms this means that where there are higher unemployment and IB rates (e.g. Chesterfield), there is likely to be more detachment from the labour market, despite long work histories, than in areas with low unemployment and IB rates (e.g. Northampton) (Hasluck, Green 2007). And while higher qualifications and status tends to be correlated to higher attachment to work, studies with reemployed executives showed their attitudes to employment became worse if reemployed in jobs with less pay, status and use of their skills (Feldman, Leana et al. 2002).

3. The Economics of Health in the East Midlands

The aim of this report is to assess the linkages between health and employability, labour market and general economic performance. It is therefore first of all important to establish the extent to which health affects the working population in the East Midlands. The data available is indicative as different sources provide different types of information and different figures. Of the respondents to the East Midlands Household Survey 2006, only 8 per cent had a disability or suffer ill-health that restricts the type of work they are able to do (Wiseman, Parry 2007). This is in contrast to findings from the LFS and Health Survey for England. The following table shows that responses to the Health Survey in the East Midlands indicate that 23 per cent have a limiting longstanding illness with a further 19 per cent who have a non-limiting longstanding illness.

Table 1: Incidents of Limiting Longstanding Illness

	%
Limiting LI	22.7
Non limiting LI	19.4
No LI	57.8

Source: Own calculations from Health Survey for England, n = working age respondents in the East Midlands.

This can be broken down by local authority. It has been shown that the five authorities with the largest impact of limiting longer term illness among people of working age are Bolsover, Mansfield, East Lindsey, Chesterfield and Ashfield, whereas the five authorities with the least impact are South Northampton, Harborough, Rutland, Melton and Daventry (Watson, Gregoire 2005). However, both the East Midlands Household Survey 2006 and the LFS show that the proportion of East Midlands respondents that have a limiting illness or disability is lower than the UK average. Of the UK population (across all ages) living in private households, 18 per cent were limited by illness or disability in their daily activities (Wiseman, Parry 2007). When questioned about perceived obstacles to finding work, 18 per cent of all respondents not in work mentioned disability or ill-health of some kind (Wiseman, Parry 2007). This proportion rises to 64 per cent for respondents claiming incapacity benefit (Wiseman, Parry 2006). Amongst IB claimants the proportion that have a disability or suffer ill-health that restricts the type of work they are able to do is 67 per cent. Considering the criteria to receive IB⁵, there remains a question why a third of IB claimants in the East Midlands sample claim they are not restricted in their daily activities or the work they can do by an illness or disability (Wiseman, Parry 2006).

In the LFS, of those who reported a health problem, more than half said that this problem limited the activities they were able to pursue. As shown in Table 2 below, there was little difference between the figures for the East Midlands and the UK. When these figures were split by age it became apparent that health problems are more likely to limit activity the older an individual gets. For example 40.8 per cent of

⁵ To be unable to work due to sickness or disability for at least four days in a row (including weekends and public holidays); to be getting special medical treatment and unable to work for two or more days out of seven consecutive days; or to have been too ill to work because of sickness or disability for at least 28 weeks.

16-19 year olds said that their health problem limited their activity compared to 60 per cent of 55-59 year olds.

Table 2: Whether Health Problems Limit Activity

	% Saying Yes
East Midlands	54.1
United Kingdom	55.2

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

Table 3 shows the reported impact of health problems on the work capability of respondents. A little over half of all respondents said that their health problems had an effect on the kind of work they were able to do while more than 40 per cent said they affected the amount of work they could do. This differentiation is obviously relevant, especially considering the types of skill demand in the East Midlands to be outlined below as well as the efficiency of workers that is of direct importance to the main conclusions of this project. Once again there is little difference between the reported figures for the East Midlands and the UK.

Table 3: Effect of Health Problems on Work Capability (in %)

	East Midlands	United Kingdom
Health problems affect <i>amount</i> of work	43.9	44.1
Health problems affect <i>kind</i> of work	51.7	51.5

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

3.1 Economic activity

In terms of economic activity, the East Midlands is relatively well off compared to the UK as a whole. The figures in Table 4 show that there are proportionally more people in the East Midlands employed and self-employed (75.9%) than in the UK as a whole (74.3%). Table 4 also shows that 5.7 per cent of the East Midlands working age population were inactive due to sickness, injury or disability compared to 6.3 per cent for the UK.

Table 4: Economic Activity of Working Age Population (in %)

	East Midlands	United Kingdom
Employee	66.6	64.8
Self-employed	9.3	9.5
Government employment & training programmes	0.3	0.3
Unpaid family worker	0.1	0.2
ILO Unemployed	4.2	4.1
Inactive due to sickness/ injury/ disability	5.7	6.3
Other inactive	13.8	14.8

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

Table 5 shows that 2.5 per cent of respondents from the East Midlands had days off work due to sickness or injury in the reference weeks of the four LFS sweeps, compared to 2.4 per cent of the whole UK sample. This compares well to other figures claiming that the average level of absence has increased to 8.4 days per employee per year (Willmott 2008). The sub-regional breakdown of LFS data indicates that the three cities - Derby, Leicester and Nottingham - have higher incidents of individuals having time off, and that proportional to these overall figures, they also have more individuals who take more than three days off at a time than the more rural Shires. The LFS figures amount to a total of working days lost in the four reference weeks for the East Midlands of 483,235, compared to 6,118,707 days for the four reference weeks for the UK as a whole. If replicated across the year, this would give a total amount of working days lost for the East Midlands of 5,798,820.

Table 5: Whether Had Days off Sick/ Injured in Reference Week

	% Had Days off
East Midlands	2.5
United Kingdom	2.4

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

When these figures were investigated further we can see from Table 6 that the largest group of those who had time off in the East Midlands were absent for just one day while less than a fifth were off for five days or more. The pattern of absence for the UK as a whole was similar with 43.7 per cent absent for just one day and more than a fifth absent for two days.

Table 6: Number of Days off Sick in Reference Week (in %)

	East Midlands	United Kingdom
One day	42.5	43.7
Two days	21.8	22.1
Three days	9.9	10.6
Four days	8.9	6.3
Five days	14.5	15.4
Six days	2.2	1.1
Seven days	0.3	0.7

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

To contextualise the information provided for our economically active group, we need to take into consideration that the East Midlands is characterised as a high employment but low skills equilibrium. In a UK comparison, the region has the second highest proportion of people in the workforce with no qualifications (emda 2006a). There is evidence (ibid 2006) to suggest that the qualification levels most appropriate for jobs held by East Midlands residents were either ‘no qualifications’ or qualifications at Level 4, though sub-regional differences again apply. Old industrial regions have been found to suffer particularly from a lack of (required) skills and employability (Danson 2005). These skill levels reflect a polarisation of skill demands with a higher demand for low or no qualifications compared to intermediate qualifications, and a small but growing demand for higher level skills. The problem in the East Midlands is therefore less one of low levels of qualifications and more one of low level of demand for skills from employers, both of which influence how employability might be defined in the context of the East Midlands.

3.2 Unemployment

Following a sharp decline in the 1990s, unemployment levels have been stabilising in the East Midlands though at 4.3 per cent they still remain below the national average of 4.9 per cent (emda 2006a). This overall headline can be broken down into a more detailed picture of the East Midlands when distinguishing between unemployment rate and ‘real’ unemployment rate (see Appendix 2 for unemployment and real unemployment by district data and Appendix 3 for JSA Caseload data). In devising a measurement of hidden unemployment, Beatty, Fothergill et al. (2002) include the extra ILO unemployed; participants on government schemes without a contract of employment; and a modelled estimate of the proportion of sickness claimants and the early retired who could reasonably be expected to be working in a fully employed economy in the ‘real’ level of unemployment. When utilising this distinction, the initial clear-cut picture of high unemployment in the north of the region (especially Mansfield and Bolsover) and low unemployment in southern sections (e.g. Northampton and Kettering) is further differentiated. Whereas the northern former coalfields tend to have higher unemployment, the industrial towns (e.g. Amber Valley) fare well, whilst the city of Nottingham has one of the highest real unemployment rates. However, as an industrial town in the south, Corby also has a relatively high real unemployment rate.

These real levels could mean that unemployment in the region is three times higher than the claimant count, with the largest group of the hidden unemployed on sickness benefits (Beatty, Fothergill et al. 2002). Individuals who are amongst these hidden

unemployed may thus be out of employment due to health issues. Hidden unemployment corresponds in part to areas with high claimant count unemployment such as former coalfield districts in the north of the region. In 2002, districts including Mansfield, Bolsover and Nottingham could have had unemployment rates of over 15% (Cousins, Downey et al. 2007). Within this, there are gender differences with former coalfields districts in North Nottingham and North Derbyshire having the highest rates of hidden unemployment among men and much of the coalfields, the Lincolnshire coast, Nottingham, Leicester and Corby having the highest rates for women (Beatty, Fothergill et al. 2002). Walker and Maltby (1997) similarly suggested lower unemployment rates to be misleading because they do not include those who have been discouraged from working, for example the long-term unemployed, returnee women, and workers from declining industries. We thus have a rough picture of the region with regards to employment and unemployment and could speculate that this will be related not only to employability but also to health and/or potential illness. There are suggestions, for example, that life expectancy in Shirebrook, a former colliery town in Derbyshire, is 17 years less when compared to the most affluent areas of that county (Wilson 2007).

Table 7 breaks down types of benefits claimed by the working age population. Proportionally more people claimed benefits related to sickness or disability than the UK average despite the earlier finding that less people in the East Midlands were inactive due to their own ill-health. The reasons for this are outlined in the subsequent table (No. 8) concerning the type of sick or disability benefit claimed. Here we can see that there is a higher proportion of people in the region claiming Invalid Care Allowance (ICA) than for the country as a whole, while the figures for Disability Living Allowance are higher for the UK than for the East Midlands. This may suggest that the East Midlands has a particular issue with ill-health affecting more than just the employability of the individual involved. There is clear evidence that it is difficult to combine work and caring responsibilities despite the government's concern that carers be integrated into the labour market (Arksey 2002). Increasingly, there is also a business case in that employers recognise the importance of their employees' work-life balance and its impact on their company's performance (Yeandle, Crompton et al. 2002). Nevertheless, there continues to be a lack of jobs with suitable hours and not enough appropriate and affordable childcare facilities (Atkinson, Finney et al. 2007). Arksey and Glendinning (2007, 15) thus call for a 'whole-of-government' approach "whereby carers' issues are integrated and consolidated into coherent policy measures that cut across traditional government department boundaries for employment, social security benefits, health, social services, transport and housing." In calling for a new social contract for care, Yeandle and Buckner (2007) suggest that in addition to the state, organisations and businesses, neighbourhoods and communities, as well as individuals of working age and their families and friends need to be involved.

Table 7: Type of Benefits Claimed (%)

	East Midlands	United Kingdom
Unemployment benefit	4.1	4.3
Income support (not as unemployed)	8.1	10.9
Sickness or Disability	14.4	13.2
State Pension	11.8	11.8
Family related benefits (not child benefit)	0.2	0.2
Child benefit	49.4	49.5
Housing benefits	1.3	1.4
Tax credits	8.7	6.9
Other	1.9	1.9

Source: Labour Force Survey July – September 2007 (Working Age Population only)⁶.

Table 8: Type of Sick or Disability Benefit Claimed (%)

	East Midlands	United Kingdom
Incapacity benefit	51.0	50.1
Severe disablement allowance	4.7	4.4
Statutory sick pay	1.8	2.1
Invalid care allowance	10.7	7.9
Disability living allowance	29.7	33.0
Attendance Allowance	1.0	0.9
Industrial industry disablement allowance	1.0	1.5

Source: Labour Force Survey July – September 2007 (Working Age Population only)⁶.

Within the East Midlands, the ‘north-south’ divide again applies, though the more differentiated breakdown is again more useful as North Nottinghamshire, North Derbyshire (especially the former coalfields of Mansfield and Bolsover) and parts of Lincolnshire (especially mainly rural East Lindsey) have the highest rates of individuals out of work and on sickness-related benefits. The three large cities (Nottingham, Derby, Leicester) also fare poorly (cf. Cousins, Downey et al. 2007).

3.3 Economic inactivity

In this section we use LFS data to build a profile of those respondents from the East Midlands who are economically inactive due to ill-health. The table below shows that age seems to be a factor in inactivity due to ill-health with more than half of this group aged over 50 and a fifth over 60. The table shows a steady increase in the proportion of the economically inactive by age band from just 1.5 per cent of the sample being 16-19 year olds to 14.8 per cent aged 60-64. Interestingly, however, the slightly younger age group of those between 55 and 59 have the highest economically inactive rate at 23.3 per cent. It could be speculated that individuals with ill-health in the older group, i.e. 60 and over, might be able to opt for (early) retirement rather than

⁶ The LFS is currently undergoing a major transformation in the way it collects and presents benefits data to bring it in line with other data sources such as Eurostat. As a result of this it has not been possible to present 12 months of data for the benefits variables on LFS and instead we have used the most recent sweep only, July – September 2007.

economic inactivity, though it should also be noted that this group contains only men and that gender differences play a role in ill-health within this age group.

Table 9: Economically Inactive Due to Ill-health by Age

Age bands	%
16-19	1.5
20-24	2.9
25-29	3.8
30-34	5.1
35-39	7.6
40-44	9.7
45-49	14.3
50-54	17.0
55-59	23.3
60-64	14.8

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

In addition to the to-be-expected increase in ill-health with age, research has found that this is also correlated with socio-economic status (Breeze, Fletcher et al. 2001). It is therefore important to consider the characteristics of the economically inactive in more detail. When breaking down the data for the East Midlands further and considering reasons for inactivity, we find that there is a significant group who are inactive because they are looking after a family home. Based on sub-regional LFS data, out of a total of 172,000 individuals inactive due to caring, the largest section of this group (130,000) are not seeking and are not interested in work. The distribution of this group cannot be mapped easily onto other regional characteristics as there seem to be high incidents in the old coalfields (Chesterfield, Bassetlaw), in rural areas (North Kesteven) and the cities. The East Midlands thus has a reasonably large group of economically inactive carers who could be looking after (young) children, the elderly, where informal care is typical for the UK (Lyon, Glucksmann 2008) or for long-term ill or disabled individuals. Despite government concern over carers' lack of integration into the labour market, most carers find it difficult to combine caring and employment (Arksey 2002, Arksey, Glendinning 2007). In the East Midlands, a similarly large group of individuals (161,000) is inactive and not seeking work because they are long-term sick or disabled. Again, the largest group (120,000) indicated that they also did not want to work.

The above-mentioned carers might be hypothesised to be mainly women and Table 10 shows a gender difference of 10 per cent in the incidence of economic inactivity being caused by ill-health. However, the balance of this gender difference goes against common wisdom that 'women are sicker but men die quicker' (Lahelma, Martikainen et al. 1999). Lahelma et al's Finnish study showed that women had poorer health, especially mental and somatic symptoms, and disabilities for respondents over 50 years of age. These findings were stable when the impact of determinants such as educational attainment, employment status, region of residence, social relations, marital and parental status were considered. In the UK, however, there has been a tendency since the 1970s towards an increase of male economic inactivity and parallel long-term illness (Bell, Smith 2004, Beatty, Fothergill 2002, Beatty, Fothergill 2007, Wadsworth, Montgomery et al. 1999) and our findings might reflect these tendencies.

It could also be speculated that women are more likely to work below their potential and thus in occupations and working conditions that are more likely to have a negative effect on their health (cf. Yeandle 2008). Overall, we have no definitive way of interpreting these findings and further research could be useful in this regard.

Table 10: Economically Inactive Due to Ill-health by Gender

	%
Female	44.9
Male	55.1

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

While the figures in Table 11 show an overwhelming majority of those inactive are white (92.3 %), this is not too dissimilar to the overall ethnic profile for the region which shows that 92.2 per cent of the overall working age population of the East Midlands is white. We can therefore not find any significant differences between ethnic groups without going into more detail on some of the specific sub-regional areas, such as the main cities, where the overall proportion of ethnic minorities would be larger.

Table 11: Economically Inactive Due to Ill-health by Ethnicity

	%
White	92.3
Asian or Asian British	4.8
Black or Black British	1.8
Other Ethnic group	1.0

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only)

When the economically inactive due to ill-health sample is split by the sector they worked in their last job some interesting statistics emerge. More than a quarter of this group in the East Midlands last worked in the manufacturing sector, almost two times as many as the next most frequently cited sector. Very few of this group worked in finance, education or public administration. The East Midlands economy was traditionally a manufacturing based one and while this sector has been in a steady and long-term decline in recent years, it is interesting to note how it dominates this particular table. What will be particularly interesting to investigate is the long-term profile of the economically inactive given that at this point the sample is dominated by ‘older’ workers and those who worked in declining industries (Beatty, Fothergill 2007).

Table 12: Economically Inactive Due to Ill-health by Industry Sector in Last Job and Average Salary of Industry

	%	Average Salary Rounded (£)
Manufacturing	26.4	25,000
Health & Social work	14.2	19,000
Wholesale, Retail & Motor Trade	12.9	19,000
Hotels & Restaurants	10.4	12,000
Real Estate, Renting & Business Activities	7.7	25,000
Other Community, Social & Personal	6.4	16,000
Construction	6.2	25,000
Transport, Storage & Communication	5.9	24,000
Public Administration & Defence	4.2	23,000
Education	3.7	19,000
Financial Intermediation	1.3	29,000
Agriculture & Forestry	0.3	19,000
Mining & Quarrying	0.3	n/a
Private Households	0.2	n/a

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only) & Annual Survey of Hours and Earnings 2007.

Finally we looked at those who are economically inactive due to ill-health by the major occupation group they belonged to in their last job. As can be seen in Table 13 below, more than one in four of this group of people last worked in the bottom two categories, process plant and machine operatives and elementary occupations with a further one in ten having worked in skilled trade occupations. The average salaries provided for the sectors and occupations in Tables 12 and 13 allow us to consider the cost to individuals of their economic inactivity (see section ‘The cost of ill-health in the East Midlands’ below).

Table 13: Economically Inactive Due to Ill-health by Major Occupation Group in Last Job and Average Salary of Occupation Group

	%	Average Salary Rounded (£)
Managers & senior officials	8.9	39,000
Professional occupations	4.5	32,000
Associate professional and technical	10.2	23,000
Administrative and secretarial	6.5	15,000
Skilled trade occupations	11.7	22,000
Personal service occupations	9.4	11,000
Sales and customer service occupations	5.0	10,000
Process plant and machine operatives	19.3	20,000
Elementary occupations	24.3	12,000

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only) & Annual Survey of Hours and Earnings 2007.

Summary Box 1: Headline results

Longstanding illnesses

- Up to 22.7 per cent of individuals of working age in the East Midlands suffer from a limiting longstanding illness; a further 19.4 per cent record a non-limiting longstanding illness, whilst 57.8 per cent have no longstanding illness.
- Of those who report a health problem, more than half (54.1%) state that it limits the activities they can undertake. Health problems affect the *amount* of work that can be undertaken by 43.9 per cent of individuals and the *type* of work of 51.7 per cent of individuals.

Economic activity

- The employment rate in the East Midlands is 75.9 per cent.
- Only 2.5 per cent of workers in the region had days off in the LFS reference weeks but this amounts to 5,798,820 working days lost every year due to sickness or injury.

Unemployment

- Unemployment in the East Midlands ranges at 4.3 per cent but in some locations the 'real' level of unemployment is as high as 15 per cent
- Proportionally more people claimed benefits related to sickness or disability (14.4%) in the East Midlands when compare to the UK as a whole (13.2%). In particular, there are more people claiming Invalid Care Allowance in the region (10.7%) than in the UK overall (7.9%)

Economic inactivity

- Of the working age population in the East Midlands, 5.7 per cent are economically inactive due to sickness, injury or disability. Economic inactivity due to ill-health increases with age.
- There is a large group of individuals who are economically inactive because they are looking after a family home, many of whom are likely to be women.
- The largest group of those who are economically inactive due to ill-health previously worked in manufacturing (26.4%) and had elementary occupations (24.3%) or worked as process plant and machine operatives (19.3%).

3.4 Common health problems

Having outlined some of the characteristics of those who have reduced economic capacity, are unemployed or economically inactive, we now consider what health issues they face. The most significant health problems to affect sickness absence, long-term incapacity and early retirement are said to be mild/moderate mental health, musculoskeletal and cardio-respiratory conditions (Waddell, Burton 2006) though they tend to be difficult to measure and are 'essentially subjective' (ibid, 3). Whilst there might be a general view that health problems are on the increase, research (Beatty, Fothergill 2007) in areas of high unemployment with high benefit claimant rates shows that this is not necessarily the case. However, in the East Midlands, looking after children (especially for women) and having a disability or suffering ill-

health (more significant for men) top the list of obstacles to employment (Wiseman, Parry 2007). Older respondents are more likely to be restricted by ill-health or physical problems (14% of 45+). Following a brief outline of health issues in the region in general, we use LFS data to shed further light on this overall picture.

With regards to health in the East Midlands, the region seems, overall, to be middle ranking within an English regional comparison. Based on Local Health Profile Data, only five indicators are ‘significantly lower “performance” than national average or target rate’ and these are: education (GCSE achievement); obesity in adults; female life expectancy at birth; road injuries and deaths; people with diabetes; and older people’s hip fractures (Health Improvement Analytical Team - Monitoring Unit 2007). In turn, there are a number of indicators in which the East Midlands ‘performs’ above the national average or target rate: income deprivation; homelessness; children in poverty; violent crime; teenage pregnancy; deaths from smoking; mental health; alcohol related hospital stays; drug misuse; and children’s tooth decay (ibid 2007). Whilst we are not able to control for all these indicators, there is some reassurance from this broad-brush overview, that health in the East Midlands is not necessarily a major problem.

There is nevertheless the regional ‘north-south divide’ in both employment and unemployment data that seems to be reflected in the proportion of the population that report health problems: 13.7 per cent of residents in Bolsover, 11.5 per cent in East Lindsey, 9.7 per cent in Boston but only 5.8 per cent in South Northamptonshire report poor health (Cousins, Downey et al. 2007). Moreover, 25.6 per cent of residents in Bolsover report a limiting long-term illness. When using Indices of Multiple Deprivation as an indicator a similar north-south divide is evident, with major urban centres, the coalfields areas and some remote rural areas on the Lincolnshire coast having the highest levels (emda 2006a).

The next table deals with the particular health problems that the respondents to the LFS reported themselves as having. As can be seen from Table 14, the region does not differ significantly from the UK as a whole, with heart (14.4%), chest and breathing (14.1%), and back and neck problems (13.6%) being the most commonly reported. Perhaps unsurprisingly, heart problems are much more prevalent in the over 50s, however, a further finding is that those reporting chest and breathing problems are more likely to be in the younger age groups.

Table 14: Main Reported Health Problem

	East Midlands	United Kingdom
Arms, hands	6.7	5.9
Legs or feet	10.5	9.8
Back or neck	13.6	13.4
Difficulty in seeing	1.6	1.5
Difficulty in hearing	2.4	2.3
Speech impediment	0.1	0.1
Skin conditions, allergies	2.6	2.6
Chest, breathing problems	14.1	13.7
Heart, blood pressure, circulation	14.4	15.1
Stomach, liver, kidney, digestion	6.1	5.6
Diabetes	4.9	5.2
Depression, bad nerves	4.4	5.3
Epilepsy	1.1	1.5
Learning difficulties	1.4	1.9
Mental illness, phobia, panics	2.2	2.5
Progressive illnesses	4.2	3.6
Other problems, disabilities	9.8	9.9

Source: Labour Force Survey October 2006 – September 2007 (Working Age Population only).

The sub-regional breakdown of these figures throws up more questions that, without a detailed contextual evaluation, are difficult to answer: why there are higher incidents of limb injuries in Leicester, Nottingham, Lincoln, Northampton, Bassetlaw, other than to speculate that these might be linked to manufacturing; why chest and breathing problems are far more common in the cities of Nottingham, followed by Leicester and Derby but also in coastal East Lindsey, in Lincoln and Northampton but also more rural Kettering, though the higher rates in former coalfields areas such as Newark and Sherwood, Mansfield and Ashfield could be the result of work in the mines; and why depression and mental illness seems to be quite low across the region.

Depression, bad nerves and mental illnesses accounted for 6.6 per cent of the East Midlands sample. In a comparative perspective, this is very low and we have not found any explanation for this result. It also contradicts the high levels of stress, depression and anxiety recorded for the UK in our European comparison. There is definitely a need for further research to clarify why the LFS results we have presented differ so considerably from the percentage of people with mental health problems in previous research on the region (see Empho website in Appendix 1). The relatively low incidence of mental health problems in the East Midlands is especially interesting in light of the dominance of mental health in parts of the literature and claims that the percentage of those with mental and behaviour difficulties is increasing, in particular amongst those on IB (Turner 2007). In the UK as a whole, 1.3 per cent of people who ever worked indicated they had suffered from stress, depression or anxiety caused or made worse by their current or past work (Jones, Huxtable et al. 2005) and mental health issues are considered to be one of the biggest problems for the UK economy (Philpott, Davies 2007). In 2003/04 this resulted in an annual loss of 0.64 days per worker, thus making it the second most common work-related illness after musculoskeletal disorders. It is noteworthy that for the incident rate (first onset in last 12 months) stress and depression was the most common work-related illness and that

this type of illness affects higher status jobs in particular (Jones, Huxtable et al. 2005). It might thus be important to consider the specific types of mental health issues in relation to sector and occupational hierarchy in the East Midlands. There are also claims that mental ill-health costs UK employers £25 billion, though no information is given for the figures used in these calculations (SCMH 2007).

In this respect, there is particular concern that the Employment and Support Allowance to be introduced in October 2008, will not be sensitive to individual needs: whilst the test are to assess hearing, speech, vision, dexterity and social abilities, it is not clear whether they will be able to capture mental health and other conditions that may fluctuate substantially on a day-to-day basis (Barker 2007). Overall, research has shown that poor mental health results from rather than predisposes to unemployment and underemployment (Fryer, Fagen 2003, Dooley 2003) but this relationship is a complex one that needs to be qualified. Whilst there are indications that individuals with health problems are more likely to be laid off than other personnel (Kivimäki, Vahtera et al. 2003), social causation is seen as running from unemployment to health: this means that mental and physical health are strongly shaped by powerful socio-structural and institutional contexts such as the labour market (Fryer, Fagen 2003). The strength of relationships is determined to a considerable degree by the type of un-/employment and the indicators for health and well-being (Friedland, Price 2003). According to long-standing research the association of unemployment and mental disorder is well established and, more recently, it has been suggested that the causal relationships can be sequential and reciprocal (Dooley, Catalano 2003).

Although not linked to any specific illness or cause of ill-health, a specific mention should be made of the gendered literature on health. Some studies have focused specifically on aspects of women's health related to employment because of the increased likelihood that women also have unpaid carer roles within the families. Some studies highlight the beneficial effect of employment on health related quality of life, even among women suffering from chronic illness (Reisine, Fifield et al. 2004). Similarly, there may be beneficial effects of combining traditional caring roles with paid employment but it should be noted that this depends on life circumstances as poor working conditions, job strain, limited social support, and financial concerns could all have a negative impact on self-reported health (Fritzell, Burstrom 2006, Kawachi, Kennedy et al. 1999, Mellner, Krantz et al. 2006, Thyen, Kuhlthau et al. 1999). Work and home environments are therefore likely to be strong mediators in the relationship between employment and health for women.

Research in the UK suggests that for lone mothers, with poorer socio-economic status, there is no evidence to support the hypothesis that employment is associated with better outcomes (Baker, North 1999, Macran, Clarke et al. 1996). There is further evidence that work-home conflict results in a worse self-assessment of health and higher incidents of self-reported physical incidents (Emslie, Hunt et al. 2004). Similarly, Eatson-Hird, Yuen et al. (1989) showed that single mother status was not a predictor of health or health service use without broader consideration of socio-economic factors. This is likely to have implications for programmes to encourage return to employment for mothers and lone mothers in particular. There is very little literature about programmes to support mothers or carers in taking on multiple employment roles. The protocol for one trial in the Netherlands to assess a Mom@Work programme designed to improve return to work after childbirth has been

described but the outcomes are not reported (Stomp-van den Berg, van Poppel et al. 2007).

3.5 Disability and longstanding illness

The Disability Discrimination Act (DDA) defines a disabled person as someone who has a physical or mental impairment that has a substantial and long-term adverse effect on his or her ability to carry out normal day-to-day activities⁷. Disability can thus take effect in a range of ways, including barriers such as lack of physical access and availability of adapted equipment (Cousins, Downey et al. 2007).

The UK is one of only six EU Members which does not have any quota system in place for the employment status of people with a disability. The UK is nevertheless seen to have experienced a positive development with an increase in employment and a decrease in both unemployment and inactivity (+12%, -14% and -4% respectively) for the period from 2000 to 2006 (Shima, Zolyomi et al. 2008). The Pathways to Work Programme is considered as a useful tool in this process (ibid).

With regards to disability, LFS data (Webster 2006) has shown that employment rates for people with disability react to unemployment rates in that fewer disabled people will be employed as unemployment rises, thus making the local labour market a more important factor than individual's disability. Employers who have experience with employing individuals with developmental disabilities hold favourable attitudes towards their employability and impediments to employment decreased with the experience of the employer (Blessing, Jamieson 1999). Looked at from a different angle, however, only 34.5 per cent of disabled people in the East Midlands are employed (emda 2006a), and they will earn approximately £117 less per week than the regional median weekly income (Cousins, Downey et al. 2007).

⁷ www.direct.gov.uk/en/DisabledPeople/RightsAndObligations/DisabilityRights/DG_4001069 (accessed 22 February 2008).

Summary Box 2: Main health problems

- The main reported health problems in the region are heart, blood pressure and circulation (14.4 %), chest and breathing (14.1 %), and back and neck problems (13.6 %).
- Depression and bad nerves account for 4.4 per cent and mental illness for 2.2 per cent of health problems reported in the East Midlands but, nationally, there are increasing reports about the increase of such health problems and situation in the region should therefore be considered in more detail.
- Only 34.5 per cent of individuals with disabilities are employed in the East Midlands.

3.6 Calculating the cost of ill-health

Following our description of the literature and statistics on economic activity, unemployment, economic inactivity and health, we aim to provide a cost of ill-health for these groups. There is a significant amount of literature on calculating the cost of ill-health or levels of productivity. In general, three aspects need to be considered: “identification (what cost items are relevant?); measurement (how to measure, for example, the length of an episode of absence from work); and valuation (what are the costs per unit, for example, for a day absent from work?)” (Koopmanschap, Burdorf et al. 2005, 48). The following table outlines some of the cost components that might, ideally, be considered.

Table 15: Components of Indirect Costs

Component	Costs
Mortality	Employee Replacement Effect on family and friends Value of lost future income
Morbidity	Lost wages <ul style="list-style-type: none"> • Paid sick leave days • Unpaid sick leave days • Payroll and benefit costs for absent employee Loss of vacation and personal leave Disability Lost leisure time Idle employer assets
Reduced productivity	Return-to-work productivity Employee's health capital investment On-the-job-training New-hiring administration and training Motivation and uptake of training Teamwork and communication Institutional effect among co-workers Effect on family members

Source: Berger, Murray et al. (2001, 19).

Even though this table assumes a causal relationship only from ill-health to reduced productivity – rather than, for example a circular relationship including stress at work also leading to ill-health (see Bejean, Sultan-Taieb 2005) - the means to calculate these aspects accurately are reasonably complicated and go beyond the scope of a short project. Bejean and Sultan-Taieb (2005) for example calculate the “proportion of cases attributable to a risk factor (PCA), or attributable fraction, (...) as:

$$PCA = \frac{Pe(RR - 1)}{[Pe(RR - 1) + 1]}$$

where Pe is prevalence of exposure to a factor of illness (here occupational stress), that is, the proportion of workers exposed to the factor; and RR is relative risk which measures the strength of the relationship of cause and effect between the risk factor and the frequency of an illness for the individual” (ibid 2005, 17). In addition to the current research not having access to all relevant information, part of the problem seems to be that the majority of means to calculate the cost of ill-health are situated either at firm or national level, thus requiring different sets of information or scales.

There are further weaknesses of the main methods to calculate the cost of health. The Lost Wages Method (also termed Human Capital Method) quantifies forgone wages but ignores societal factors and the time frame utilised is inevitably assumed. The Friction Cost Method attempts to take into account the situation within firms and the labour market (cf. Pauly, Nicholson et al. 2002) but this type of detailed analysis is beyond the scope of our study. Similarly, the Health-adjusted life years (HALYs), Quality-adjusted life years (QALYs) and Disability-adjusted life years (DALYs) that are favoured by the World Health Organisation (WHO) do not seem specific enough

when considering the inter-relationship between employment and health (see Gold, Stevenson et al. 2002). In fact, a number of the methods depend on specifically designed questionnaires or surveys (see Ferrer-i-Carbonell, van Praag 2002, Koopmanschap, Burdorf et al. 2005) and are therefore no use to our short review project. Alternatively, measures such as HALYs are based on estimates as they quantify the year equivalents of life lost due to disease or injury. This is calculated using two estimates: “years of life lost (YLL) through premature mortality and year-equivalents lost to reduced functioning (YERFs)”⁸.

Considering these difficulties, we settled on a formulae previously used to calculate a production loss for the East Midlands of £222 million each year (Watson, Gregoire 2005)⁹. The formula utilised by Watson and Gregoire is based on working days lost due to work related illness per year and therefore also suffers from some of the above-mentioned weaknesses. It should be mentioned that such general calculations have been criticised (Harvie, Philp et al. 2003, Harvie, Philp et al. 2006, Stewart 2005), as they do not take into consideration, for example, low wages in the East Midlands. We have tried to address this point by using the regional Gross Value Added (GVA) as calculated by the Office for National Statistics (ONS) and the regional labour force.

$$\left(\frac{G.V.A.}{Worker}\right) \times \left(\frac{1}{WorkingDaysPerWorkerPerYear}\right) \times (WorkingDaysLost) = \text{Estimated Production Loss of Employees due to Ill-health}$$

For this calculation we use the GVA per worker estimated to be £35,000 for the East Midlands in 2006. For the working days per worker per year we use 253 days to exclude weekends and bank holidays. The first two brackets of the calculation thus come to £138.30.

On the basis of LFS data, if the number of working day lost in the four reference weeks were replicated across the year, this would result in a total amount of working days lost for the East Midlands of 5,798,820.

The employed: $138.3 \times 5,798,820 = \text{£}802,208,300.40$

It needs to be mentioned though that the function assumes that when a worker is on sick leave his/her productivity is entirely lost. However, this is not necessarily the case due to work reorganization, although this would have costs associated with it such as “the low morale among staff who have to carry out additional work to cover for those who are absent because of sickness, the cost of managing absence and the impact on training and development, all of which impact on the overall levels of output for the organisation” (Barham, Begum 2005, 149). Overall, while GVA per head calculation would underestimate the production loss, GVA per worker calculation may overestimate the productivity loss. If we used the GVA per head the calculation would show a production loss of £390 million per year. The figure of £802 million should thus be considered as the maximum estimated production loss per year.

⁸ www.phac-aspc.gc.ca/phi-isp/summary_measures.html#1 (accessed 29 January 2008).

⁹ The direct comparison of this figure to our calculation should be avoided as Watson and Gregoire (2005) estimate the production loss caused by work related illnesses, while we estimate the production loss caused by both work related sickness and general ill-health.

This formula only calculates the cost of ill-health for one of our three groups, namely those in employment whose economic performance is reduced due to ill-health. We therefore need to adjust this formula for the second of our groups, the unemployed who may face barriers to employment due to health issues. For this group we have utilised the average length individuals spent on IB. Ideally, we would also have liked to calculate this for the average time spent on Jobseekers Allowance (JSA) but this information does not seem to be available from the DWP. These calculations are proxy figures, especially as we cannot know for sure whether individuals on IB would consider themselves unemployed or economically inactive.

$$\left(\frac{G.V.A.}{Head}\right) \times \left(\frac{1}{\frac{WorkingDaysPer}{WorkerPerYear}}\right) \times (AverageLengthOnIB) = \text{Estimated Cost of Ill-health of those on Incapacity Benefit}$$

For this calculation we use the GVA per head as calculated by ONS for the East Midlands as £17,000 for 2006. For the working days per worker per year we use 253 days to exclude weekends and bank holidays. The first two brackets of the calculation thus come to £67.10.

For the unemployed, we use a proxy to calculate the cost of being out of a job via IB which is a more or less direct measure of an implication of ill-health. The DWP provides a breakdown of duration of the current claim in the East Midlands for IB (see Appendix 4 for the full table). However, the categories do not provide an exact breakdown of duration, so we again have to use an estimate. The largest group of claimants (50.6%) have been claiming for five years and over, with a further 22.5 per cent claiming two years and up to five years. As these two groups together make up more than two thirds of the caseload, we use five years (i.e. 1265 days) as an approximate average.

The unemployed: $67.1 \times 1265 = £84,909.99$

On this basis, the total approximate cost to the economy of an individual not being available for work because they are on IB is £84,910. We would emphasise, however, that based on the assumptions and proxies utilised, this is a very rough calculation. Moreover, this calculation does not take into consideration the cost to the individual, for example via lost income.

Having said this, when we tried to calculate the cost of other circumstances, such as the cost to the economy of ill-health of individuals who require a carer, we reached the same results. Carer's Allowance (CA) is a benefit aimed to help people who are caring for someone who is disabled, whether they are a relative, living with the individual or not. The DWP provides a breakdown of duration of the current claim in the East Midlands for CA (see Appendix 5 for the full table). However the categories do not provide an exact breakdown of duration, so we again have to use an estimate. When looking at the data for individuals of working age who receive CA in the East Midlands, 80 per cent of recipients have claims of more than one year and just over two thirds of carers have received the allowance for more than two years. Caring is thus a long-term commitment. As the largest percentage group of carers (38.9%) is in

the five years and over category, we use this as the basis for our calculations¹⁰. As for individuals on IB, the total, approximate cost to the economy of an individual who cares for a person with a disability is thus £84,910.

Carers: $67.1 \times 1265 = \text{£}84,909.99$

We also aimed to calculate the cost of ill-health of the economically inactive who could face barriers as a result of health issues if they tried to re-enter the labour market. As these individuals do not tend to receive an income or benefit, we can again only use a proxy to calculate the cost to the individual as this also provides an insight into the potential long-term implications for the individual and potential decline into deprivation. To this end, we have broken down the category of individuals who indicated in the LFS that they are economically inactive due to ill-health by sector and occupation last worked in. With information from the Annual Survey of Hours and Earnings (ASHE), we can thus provide an estimate loss of earnings for these categories. These calculations are thus based on the lost wages method as outlined – with its weaknesses – above.

As indicated in the section on economic inactivity (in particular in Tables 12 and 13), almost a third (26.4%) of those who are economically inactive due to ill-health last had a job in the manufacturing sector and would therefore earn on average up to £25,000 annually. In health and social work, the second most frequent sector (14.2%) in which individuals who are economically inactive due to ill-health worked in their last job, the average salary is around £19,000. A breakdown by occupation gives us a better idea of the kinds of jobs those who are economically inactive due to ill-health used to undertake within these sectors. The largest group (24.3%) worked in elementary occupations and would have earned an average salary of £12,000. Almost half of this group worked in such elementary occupations or as process plant and machine operatives and would have earned less than £20,000. The types of jobs that were mainly undertaken by the now economically inactive as well as the average salary they would have received reinforce the importance of the interrelationship between good working conditions and health.

¹⁰ The percentage of CA recipients that have been in receipt of this benefit for five years or more, is 10%+ less than for those receiving IB. However, as we do not have precise figures for the length of time individuals receive the benefit for, and as we are already using proxies to calculate this cost, a further adjustment to try and establish how many CA recipients have been in receipt for how long, would amount, in our opinion, in speculations that we do not feel comfortable with.

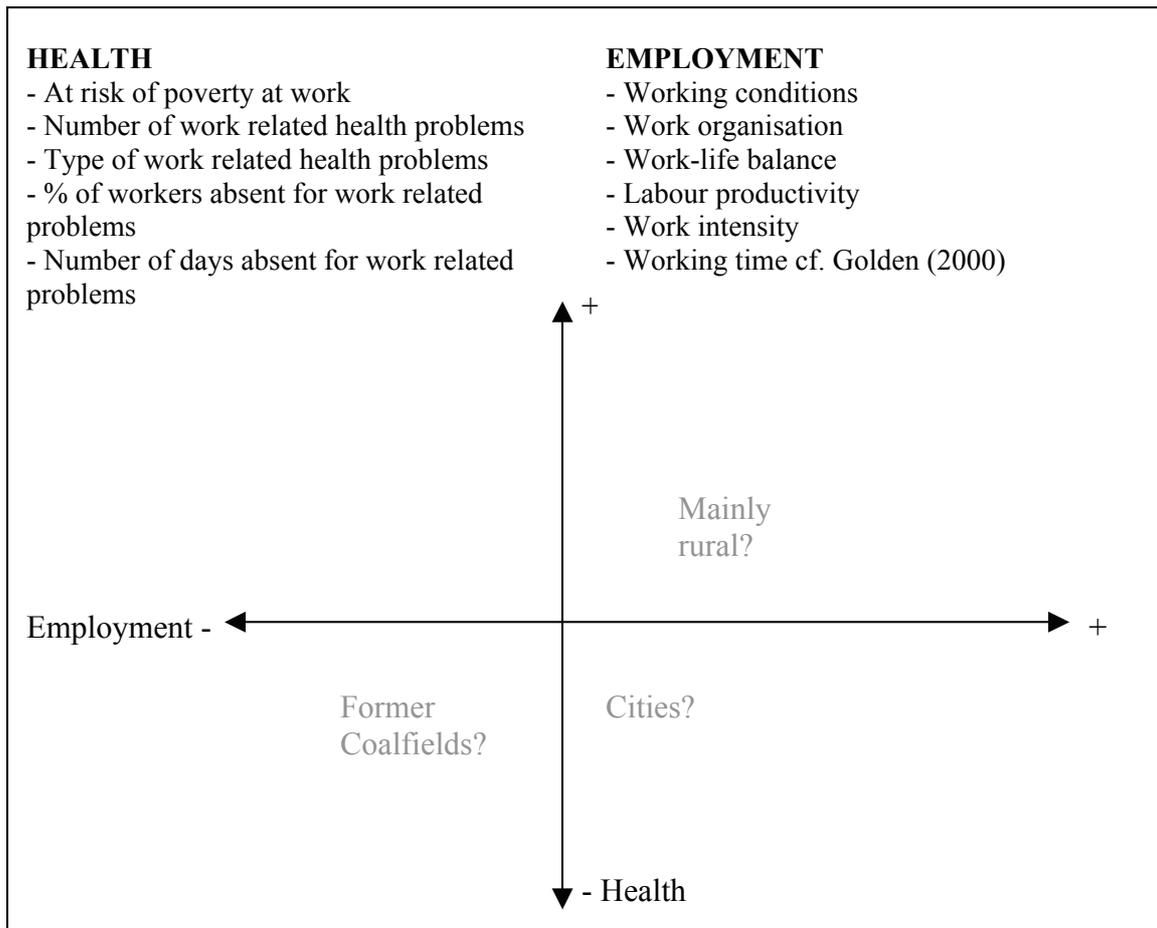
Summary Box 3: The cost of ill-health

- Based on a total amount of working days lost for the East Midlands of 5,798,820 days, the estimated maximum lost output to the East Midlands economy would be £802 million per year.
- The approximate cost to the economy of an individual not being available for work because they are on IB is almost £85,000. Although based on proxies, the cost to the economy of an individual who cares for a person with a disability would also be £85,000.
- The lost wages of those who are economically inactive due to ill-health would have been between £12,000 (elementary occupations, accounting for 24.3% of this group) and £20,000 (process plant and machine operative, 19.3% of this group). In the manufacturing sector (26.4%) more generally, lost wages would have been on average £25,000 annually.

3.7 Employability, health and causal relationships

Based on the literature and statistical material as well as the causal relationships outlined above, we reconsider the regional differentiations mentioned throughout this report and summarise this in Figure 2. Here both employment and health are seen as a continuum on which we can pitch the sub-regions mentioned. What is noticeable is not only the difficulties we have had to explain some sub-regional differentiation but also the lack of specific information available on many of these areas. In particular, we have not found information on the suburban regions such as Erewash, Blaby, Oadby and Wigston, Broxtowe, Gedling, and Rushcliffe. To some extent, the same is true about industrial towns, though there are indications that unemployment is lower – except for Corby – with further signs of increased health problems in Northampton, Lincoln and Kettering. Whilst more information is available on the cities, former coalfields and mainly rural areas (see below), there seems to be a need for a more detailed study considering the aspects raised in this report in particular settings.

Figure 2: The Employment Continuum in the East Midlands



With regard to the three types of areas that we have some information on, the above figure indicates a differentiated picture that should be further broken down as our knowledge about them increases. The three cities seem to fare reasonably poorly as working individuals have more time off and take more days off at a time. Unemployment is high, especially in Nottingham and especially for women. A high proportion of those out of work are on sickness-related benefits and there is a high incidence of those who are economically inactive and not seeking employment who are looking after a family home. This is reflected in poor health, especially in Nottingham, and with high incidents of limb injuries and chest and breathing problems.

Issues of poor or lacking employment and poor health trouble the former coalfields. Skills requirements in these areas might be lower and unemployment is high, especially for men but also for women. A high proportion of those out of work are on sickness-related benefits and there is also a high incidence of those who are economically inactive and not seeking employment who are looking after a family home. There is a high proportion of self-reported health problems and indications that life expectancy might be low.

Our final category, the mainly rural areas, is particularly difficult to bring together as there are highly differentiated problems. Within this category the more general differentiation between north and south East Midlands might be useful as there is,

overall, a high incidence of those economically inactive and not looking for employment who are looking after a family home. In some settings this might indicate a traditional, gendered division of labour within families. However, on the Lincolnshire coast, there is high unemployment, especially for women, and a high index of multiple deprivation. This is reflected in chest and breathing problems and higher reported health problems. In contrast, south Northamptonshire has lower reported health problems.

4. Policy Considerations and Recommendations

The complexity of the issues highlighted in this report thus far point to the difficulties associated with making specific policy recommendations. One problem for evaluations resulting in recommendations is the lack of clear and generalisable results and the differences in the calculation of basic employment related statistics which is also reflected in other reports' critique of a lack of good-quality data (Black 2008). An important requirement for most policy development but especially for inter- and multi-disciplinary issues, such as the interrelationship between health and employment is thus to encourage a move towards more compatible data collection methods. This said, it is an important outcome of our research to make evidence-based policy recommendations at a regional level for the East Midlands Development Agency to consider. Before making recommendations, we briefly outline the principles that should be considered and/or underpin any policies and discuss policy formation in general.

An important aspect of the literature is the discussion of problems caused by government's supply-side oriented approach (see for e.g. DWP 2007) which is based on the view that there are sufficient jobs for the unemployed and those in hidden unemployment or on Incapacity Benefit (IB) (Beatty, Fothergill 2007). Yet the lack of jobs, especially 'good' jobs (Theodore 2007), seems more influential than any particular characteristics of unemployed individuals, thus reinforcing questions about government policies that have been developed in response to supply-side explanations of worklessness (Webster 2006). Employability thus seems to be a concept used to individualise issues of unemployment and underemployment and remove government and employer responsibility for the welfare of the workforce (Moore 2006). The move towards workfare includes "a work ethic culture which holds individuals responsible for their own fate and downplays the importance of societal factors such as lack of employment opportunities and the selectivity of labour markets" (Daguerre 2004, 53/4). The less-qualified and, often, older people are least able to compete for scarce jobs (Coombes, Raybould 2004). In this light it might be difficult for the government to reach their aim to reduce those claiming IB - a total of 2.7 million adults of working age in 2007 - by one million by 2016 (Beatty, Fothergill 2007) and thus attempt to reverse the considerable increase in this claimant group (cf Fothergill, Wilson 2007). Despite the national policy context in which partner organisations in the East Midlands operate, greater consideration of interventions that affect the demand-side for quality employment would be useful.

In light of the diverse policy interventions found in the literature, the overall principles and aims of policies should be clarified before considering specific interventions. In particular, when considering policy recommendations, criteria should be set as to the successfulness of schemes. At times it may be necessary to consider seemingly opposing considerations. It may also be the case that interventions vary depending on the value attached to the different aspects of these considerations:

- i) Productivity and economic performance should be balanced with 'therapy' or benefit for the individual and their health;
- ii) Questions need to be asked about the benefits and disadvantages of integration or segregation of workers with health issues; and,

- iii) It should be considered whether labour market participation and performance are temporary or whether they can be achieved permanently. (Schneider 1998)

4.1 The national policy context

In addition to the basic principles that underpin policy formation as outlined above, the national context for regional policy development has to be considered. As with all of the recommendations to be discussed, the national context should be addressing both sides of the causal directions of how health affects work and how work affects health. If we consider the former relationship (effect of health on work) as part of the supply-side of labour to the labour market and the latter (effect of work on health) as the provisions of the demand-side, an interesting picture emerges in that, as discussed above, the majority of national policies concern the supply-side. A strand of the policy literature highlights the need for intensive and individualised interventions, though the recent review into welfare reform carried out for the DWP (Freud 2007) indicated that this could be achieved via outcomes-based, contracted support. Privatisation of these services might, however, be counterproductive as there is the danger of standardisation to achieve efficiency (McQuaid, Lindsay et al. 2006). In particular, McQuaid, Lindsay et al. (2006, 166) voice concern that the “drive for efficiencies in private sector provision appears to have been counter-productive in some cases, as companies seek to gain savings by standardising provision, or target the more employable job seekers so as to claim job entry rewards – the ‘parking and creaming’ of clients seen in countries such as Australia and the Netherlands”. Whilst there is recognition that it is essential to address the multiple and complex barriers to employability and provide co-operation, early intervention and localisation via support structures, attention should be paid to how privatisation is implemented to ensure differentiated and tailored service for all groups.

We here briefly outline three important policy developments: the Leitch report and its implementation; Dame Carol Black’s recent review ‘Working for a healthier tomorrow’; and the introduction of the Employment Support Allowance (ESA) to be implemented in October 2008.

The Leitch Report (Leitch 2006) published in December 2006 set the national context of the current policy priority of integration of employment and skills policies and systems. Workless people and low-skilled workers are groups highlighted as benefiting from the integrated employment and skills services. The skills levels required according to Leitch (2006) would mean a doubling of attainment at most levels. To achieve this, substantial changes have been announced to funding, especially for demand-led training and schemes such as Train to Gain employer training funds. In return, however, there is a clear expectation that individuals and employers take responsibility for their skills and qualifications (DIUS 2007). There is an explicit recommendation to move to more demand-led approaches to skill provision and provide employers with more voice. Health, in the broad sense used in the present report, is not a direct concern of the Leitch Report but, in implementing the recommendations, especially those directed at IB recipients, there is an implicit assumption that improving skills will improve individuals’ health. The Black Review (Black 2008) considers how employment and health are interrelated for those both within employment and outside of the labour market. Key challenges identified include: the lack of appropriate information and need for a government-led well-being

consultancy service; the limited effect Pathways to Work has for those with mental illnesses; and the detachment of occupational health from mainstream healthcare (Black 2008).

An important attempt to address some aspects raised by these reports is the forthcoming change to IB, with the introduction of ESA in October 2008. There will be a 'proof of wellness' rather than a requirement to demonstrate incapacity. One instrument of the changes to the IB system is the above mentioned Pathways to Work program which aims to provide tailored, flexible support and information to help the return to work. Pathways is intended to help people achieve sustainable jobs and, according to the DWP (2007), new customers in Pathways areas are over seven percentage points more likely to have a job after 18 months. A further intervention to increase the employment rate is the Jobs Pledge. Participating employers in both the public and private sectors have given a commitment to offer guaranteed job interviews for people who have been on benefits and who are ready and prepared to work. The Jobs Pledge builds on Local Employment Partnerships which involve large employers making a commitment to work with Government to help long-term benefit claimants back into employment. They do this by encouraging local managers to work with Jobcentre Plus, the LSC and others to provide specific help including guaranteeing interviews or jobs to local benefit claimants who complete pre-employment training. Employers involved in this scheme include ASDA, B&Q, Marks and Spencer, Sainsbury, Tesco, Debenhams, DSGI, Birds Eye, Transport for London, Greggs, John Lewis, Primark, Wilkinsons, Gala Group, Intercontinental Hotel Group, Wetherspoons, McDonalds, Whitbread, G4S, OCS, Reliance, Securitas, Standard Life, Somerset County Council, Network Rail, Vodaphone, Carillion, Centrica, City Facilities Management, Aviance, Servisair, SERCO, Travelodge, and Diageo¹¹.

4.2 The regional context

In addition to the national policy context, the regional situation also needs to be taken into consideration as there are a number of policies aiming to address the issue of ill-health as a barrier to employability. The East Midlands Regional Assembly's *Investment for Health* (EMRA 2003) is a public health strategy for the East Midlands and identifies the most important public health issues for the region. The strategy outlines five health priorities and 16 objectives with identified Lead Agencies. Of these, Theme 3: Protecting Health is particularly noteworthy as it includes (as Objective 9) to work via the TUC East Midlands to protect and promote the health of East Midlands employees within their place of work. Moreover, East Midlands Public Health (Emphasis 2006) highlights the importance of mental health and well-being which, considering our inconclusive findings on this matter, should be pursued further. This report also encourages the involvement of the voluntary and community sector to improve the health of the regional workforce.

Emda (2006b) emphasise the need to work with employers to improve the health of the region's workforce and to address ill-health as a barrier to employability as one of their priority actions in the Regional Economic Strategy. More specifically, they aim to work with key partners such as the Department of Health, the East Midlands Public

¹¹ See: www.dwp.gov.uk/mediacentre/pressreleases/2007/jul/emp039-180707.asp (accessed 8 April 2008).

Health Task Group, local authorities, SSPs, and JobCentre Plus to: provide business support services; promote healthy workforce initiatives; and ensure that employment support activities in the region take account of the varying health needs of the workforce.

A further important aspect to consider from the materials presented in this report is the two-directional relationship between employability and health that policies would need to address. The relation between health and work needs to tackle differences in the data reported as well as the institutional differences from at least two angles. First, there is the question of ‘how does work affect health’, which concerns the organisation and management of work, working conditions, and health. A second question is how health affects work and thus how individuals can be tempted back into the labour market despite concerns about their constitution. We consider these in turn below and then summarise our recommendations.

4.3 Policy recommendations: Work-based interventions

There are a range of workplace measures in place that are aimed at reducing long-term employee sickness and absence, thus addressing only a small proportion of our economically active population who, in the main, has only short periods of time off. However, these measures could prevent individuals from becoming economically inactive for long periods of time. The following table shows how common each of the listed measures is amongst companies participating in a CIPD survey. Generic policies such as ‘occupational health support’ and ‘flexible working arrangements’ are most common, but it is difficult to know how these concepts are implemented in different companies. When asked whether these measures were effective, there were indications that respondents thought that the measures more likely to be in place were also the most effective ones.

Table 16: Measures in Place to Manage Long-Term Employee Sickness and Absence

	Percentage of respondents			
	Manufacturing & production	Private sector	Public sector services	All sectors
Occupational health support	72	50	93	69
Flexible working arrangements	81	77	95	82
Rehabilitation programme	48	28	51	40
Employee well-being/health promotion initiatives	35	34	63	41
Employee assistance programmes/counselling services	52	48	82	61
Private medical insurance	48	52	12	33
HSE stress management standards	30	26	54	35
Absence management training for line managers	53	41	75	54
Stress risk management	27	17	47	28
Stress management training for line managers	18	17	48	26
Leadership training/people management training for line managers	58	53	76	61

Source: Philpott, Davies (2007).

In addition to the interventions that can be implemented by employers, a lot could be done on a regional level to influence the demand-side via the type of employment that might be available. It has been shown that, across the UK a high proportion of workers remain in low quality jobs and that this situation will not be changed without a radical change in policy direction (Brown, Charlwood et al. 2007).

Stereotypically, the East Midlands is characterised as a low-skill and low-pay region, with a historical reliance on manufacturing. This background is still evident amongst the economically inactive due to ill-health in the East Midlands, of which 26.4 per cent last worked in this sector. As it is important to attract employers and jobs in general, attention must be paid to the type of employment and the mix of jobs within companies as there are noticeable differences in working conditions. The differences in pay per sector and occupation outlined above indicate such working conditions, in particular highlighting the elementary occupations as being paid amongst the least. It could be part of a regional intervention to ensure health provisions by employers become a key consideration to ensure that there are openings into ‘quality jobs’. The workplace as a whole, rather than specific policies for individuals, thus becomes the centre of attention.

Although, as previously mentioned, the literature has struggled to specify characteristics of ‘good jobs’, a profile of such employment in the East Midlands can be developed via qualitative research in organisations that are business champions, participate in Local Employment Partnerships or the Jobs Pledge, or are top 100 companies. At the same time, this could be a means by which employers become involved to make health a central consideration of working conditions and possibly the Health and Safety agenda. Here, trade unions have already undertaken important work and should be partners as outlined in the Regional Economic Strategy (RES)

(emda 2006b). The message could be spread further by integration into the agenda of Union Learning programmes and the occupational health and safety standards. Factors beneficial to well-being at work, as discussed in our employment continuum approach, include improving working conditions via increased control and autonomy and health trainers or ambassadors within workplaces. Policy should consider health to be at the core of its interventions to ensure sustained and substantial improvements in the quality of work.

4.4 Re-entering the labour market

There is a general development towards individualised and specific interventions for those outside or on the margins of the labour market. Theodore (2007, 938) states in his discussion of New Labour's use of active labour market policies that:

...what is needed are local economic development and social economic initiatives that are designed to stimulate job growth in distressed regions *combined with* job training programmes to help the long-term unemployed back into the labour market. It is precisely this combination of policies that, when well designed and adequately funded, can address both the root causes of long-term unemployment in the UK and the ongoing problem of demand deficiencies in distressed regions.

Regionally based recommendations, such as those outlined in the section on the regional context, as well as the call for the development of local multi-agency employment teams, the expansion of the number of Personal Advisors in the East Midlands, outreach through local centres and community organisations, and employer compacts are therefore crucial (Cousins, Downey et al. 2007).

An important finding from our work is the high incidence of individuals claiming Invalid Care Allowance (ICA), which suggests that there might be a lack of statutory care. The high proportion of carers amongst the economically inactive reinforces this point. An in-depth study into Carers, Employment and Services undertaken for Carers UK has called for a complete overhaul of the entire infrastructure of support for carers (Yeandle, Buckner 2007). In particular, this study highlighted the importance of four main elements of the necessary infrastructure for carers in a locality: local providers of social care; local health services; workplace support for carers; and other local infrastructure. Their call for a carers' contract shows the importance, socially and economically, of providing the infrastructure for carers to remain or re-enter the labour market whilst also ensuring that working in the care sector provides 'good jobs'. It has, moreover, been shown that workplaces can provide appropriate support for carers, for example, via leave policies, carer-friendly working arrangements, access to a (private) telephone, and supportive line managers and co-workers (Arksey 2002).

On a more general note, the integration into the labour market or return to employment, -whether this is: via sheltered settings; vocational rehabilitation and training; supported employment; transitional employment; voluntary work or specialist employment agencies (see Schneider 1998) - clearly requires specialist services that cannot easily be newly created. Established services, such as those provided by Remploy, should therefore be consulted to allow an empirically and regionally grounded assessment of the suitability of provisions. Given that only 34.5

per cent of disabled people in the East Midlands are in employment, such services seem crucial. The range of Remploy services, for example, includes recruitment support; return to work, vocational rehabilitation and learning links. Their experience of such work, accumulated since the 1940s, should be a vital component to planning ahead.

There are further examples of such regional and disciplinary specific expertise that should be drawn on. The Report of the Regional Director of Public Health for the East Midlands recently published information on: reducing the number of people who smoke; reducing obesity and improving diet and nutrition; improving sexual health; improving mental health and well-being; reducing harm from alcohol and encouraging sensible drinking; avoiding injury; cancer, circulatory disease; and general physical activity (Morris, Nicholson 2008). These are vital areas which we have not been able to consider in our report but which will also impact on employability and labour market participation.

In addition to the workplace-based suggestions and means to support individuals back into employment, a more general point is crucial to all those who have health problems or support/care for individuals with such issues. There is a dearth of information on what provisions and support there is and what should be available. It has also been shown that learning in general improves employability and eases return into the labour market (LSC 2008). A clear outline of what individuals who have health problems can expect from employers and the support infrastructure, as well as a clear outline of what could be done, for example via outlines of good practice, would go a long way in allowing individuals to make more informed decisions.

There are clearly a whole host of policies and strategies in place and many of the issues outlined in this report have been recognised at the regional level. The question then remains whether the interventions and strategies are effective to change the situation in the various locations in the East Midlands. The picture as presented in the sub-regional breakdown as part of Section 3.7 on Employability, health and causal relationships suggests that effects vary considerably in the different localities and depend considerably on local characteristics and socio-economic contexts. This reinforces the need for disaggregated, compatible statistics on subjects as diverse as employment, unemployment, economic activity, health, employability, welfare recipients, socio-economic characteristics – as well as individuals' perceptions of each of these.

Of our recommendations, which we summarise in the following textbox, there seems to be a particular need for knowledge on establishing what and where the good jobs in the East Midlands are and policies and interventions specifically for carers.

Textbox 2: Policy Recommendations

Work-based interventions:

- Ensure health provisions by employers become a key consideration and requirement to ensure openings into ‘quality jobs’ in the region. Overcoming the historical legacy of, in particular, elementary occupations in the manufacturing sector, is a key part of this process.
- Develop specifications of ‘good jobs’ through qualitative research, profiling regional business champions and the top 100 companies.
- Work with employers and trade unions to make health a central consideration of working conditions, in particular via increased control and autonomy.
- Establish health at the core of all interventions in developing a sustainable policy.

Re-entering/integration into labour market:

- Further develop local multi-agency employment teams to target those outside, or on the margins of, the labour market.
- Develop models for workplace policies (including flexible leave policies and supportive environments) to maximise support for carers and encourage benefit recipients (ICA) and the economically inactive into employment.
- Conduct an empirical and regionally grounded assessment of provisions to support integration into the labour market, drawing on established formal and informal services.
- Prioritise the provision of clear and accessible information for employers, employees and carers regarding provisions and support available.

To develop locally specific and targeted interventions based on an improved understanding of the sub-regional level, disaggregated and comparable statistics are required.

5. Conclusions

Having reviewed the data and literature in relation to employability and health in the East Midlands, we can draw some important conclusions from our findings. These should be considered within the context of provisos mentioned throughout this report and by previous research:

- 1) Findings tend to be about average or group effects and should apply to most people to a greater or lesser extent; however, a minority of people may experience contrary health effects from work(lessness);
- 2) Beneficial health effects depend on the nature and quality of work (though there is insufficient evidence to define the physical and psycho-social characteristics of jobs and workplaces that are 'good' for health);
- 3) The social context must be taken into account, particularly social gradients in health and regional deprivation. (Waddell, Burton 2006, ix)

These are important tenets of our research, though we have, in part, been limited in our ability to fully take individual and group differentiation, working conditions and context into consideration due to statistical restrictions and a limitation as to what could be achieved within the framework of this project. Despite these restrictions, we have found some persistent and complex problems relating in particular to the three sub-groups we focused on for this project: employees with ill-health; the unemployed and economically inactive for whom health might act as a barrier to re-employment.

The contextualisation of East Midlands in a European comparison offered interesting insights into the good 'performance' of the UK on indicators such as self-reported health problems. European comparison shows that sleeping problems, stress, depression, anxiety and respiratory problems are more significant problems in the UK than in the rest of Europe. The 'passive work organisation model' with low demands and low control which characterises the UK also applies well to the East Midlands which has been described as a low skills equilibrium in which relatively low demands/intensity might be accompanied by relatively low worker autonomy as well as low pay. Such lowered autonomy seems linked to poor health. This comparative approach has emphasised the importance of the overall economic strategy, specific workplace interventions as well as the infrastructure in place for individuals wanting to return to work.

Health issues in the East Midlands have a considerable impact on employment as, depending on the source used, up to 22.7 per cent of working respondents have a limiting longstanding illness while a further 19.4 per cent have a non-limiting longstanding illness. This proportion rises to 67 per cent amongst Incapacity Benefit (IB) claimants and increases with age. Analysis of the LFS showed that within the working age population, health problems not only affect the amount of work that can be undertaken (43.9%) but also the kind of work individuals can do (51.7%). Health problems will thus impact on how many people are available to the East Midlands economy, but will also make those that are available less flexible in what type of work they can undertake and what hours they can work.

The East Midlands is a high employment region with the LFS showing an economic activity rate of 75.9 per cent amongst the working age population. The employed

compare well to the rest of the UK with 2.5 per cent of respondents from the region having had days off, though there are indications that this rate is higher in the main cities. The majority of workers (42.5%) only take one day off when they are ill. Based on the reference weeks for the LFS, the East Midlands economy loses 5,798,820 working days each year due to ill-health of workers.

Unemployment in the East Midlands is comparatively low at 4.3 per cent though there are considerable sub-regional differences with the former coalfields and the city of Nottingham having especially high rates. When considering what has been termed the 'real' level of unemployment, i.e. including individuals who are, for example, on IB rather than on unemployment benefits or discouraged workers, these areas could have unemployment rates of up to 15 per cent. Proportionally, more people in the East Midlands claim benefits related to sickness or disability than in the UK as a whole, with 14.4% claiming sickness or disability benefits. When breaking down the types of benefit claimed, the East Midlands has slightly higher levels of IB (51%, 50.1% for the UK) and especially of Invalid Care Allowance (ICA) (10.7% and 7.9% for the UK). Health problems thus not only affect the individual directly but also have secondary effects on carers' ability to be economically active.

There is a steady increase of the economically inactive with age, with the largest group (23.3%) in the 55-59 age band. There are significant groups of individuals who are economically inactive (and mainly not looking for or wanting employment) because they are looking after a family home (172,000 individuals) and because they are long-term sick or disabled (161,000 individuals). It could be speculated that those looking after a family home are more likely to be women/mothers but we did not find any significant impact of gender or ethnicity on the incidence of being economically inactive due to ill-health. Considering the economically inactive due to ill-health sample in more detail we found continuing evidence of the importance of the manufacturing sector in the East Midlands. Of those who are economically inactive due to ill-health, 26.4 per cent last held a job in that sector. The largest group (24.3%) worked in elementary occupations, closely followed by process plant and machine operatives (19.3%).

For the UK as a whole it seems that mild/moderate mental health, musculoskeletal and cardio-respiratory conditions are the main health problems to affect sickness absence, long-term incapacity and early retirement. Within an English regional comparison the East Midlands does not stand out as having a particular problem with self-reported health but there seems to be a regional north-south divide with higher incidents of reported poor health especially in the former coalfields and some rural parts of the Lincolnshire coast. In the East Midlands as a whole, heart (14.4%), chest and breathing (14.1%) and back and neck problems (13.6%) are the most commonly reported problems. Based on the LFS data we drew on, the East Midlands has a comparatively low rate of incidents of depression, bad nerves and mental illnesses (6.6%) though these findings differ significantly from previous research and our European comparison, so that a further investigation would be advisable. This is especially the case in light of the significance placed on mental health in both the current public debate and the literature. It can be emphasised that poor mental health results from, rather than predisposes to, unemployment but this relationship is a complex one with social context, socio-economic status and institutional contexts being important aspects to consider. According to long-standing research, the

association of unemployment and mental disorder is well established, sequential and reciprocal.

Taking into consideration the restrictions of this project, we used a comparatively simplistic formula to calculate the cost of ill-health to the East Midlands. For the employed who have days off due to ill-health, the maximum estimated lost output to the East Midlands economy would be £802 million per year. For the unemployed, we use a proxy to calculate the cost of being out of a job via IB and, on this basis, the total approximate cost to the economy of an individual not being available for work for an average of 5 years because they are on IB is £84,910. We would emphasise, however, that based on the assumptions and proxies utilised, this is a very rough calculation which should only give a vague indication. However, using Carer's Allowance as an alternative proxy we reach the same result. As for individuals on IB, the total, approximate cost to the economy of an individual who cares for a person with a disability is thus £84,910. Almost a third (26.4%) of those who are economically inactive due to ill-health last had a job in the manufacturing sector and would therefore lose wages of, on average, up to £25,000 annually. However, almost half of the economically inactive due to ill-health last worked in elementary occupations or as process plant and machine operatives and would have earned less than £20,000. The types of jobs that were mainly undertaken by the now economically inactive as well as the average salary they would have received reinforce the importance of the interrelationship between good working conditions and health.

The continuum approach outlined in this report is a useful way to consider the range of engagements with the labour market that is evident in locations across the East Midlands as this allows for an understanding that goes beyond a simplistic view that all employment is good. It also highlights, as emphasised throughout this report, the importance of the quality of work. This has an effect on well-being of employees (and days taken off sick) and could substantially reduce overall inactivity due to ill-health. We also presented evidence that the exit routes from unemployment and the related employment have a significant impact on the potential for long-term health and employment. It is vital to avoid the revolving door syndrome for those willing to return into employment. The causal relationships between mental and physical health, employment and productivity are thus highlighted. We have argued throughout that the relationship is a two-way one which includes the need for a reasonably sound basic health (which seems to be given in the East Midlands) and good working conditions, as well as the social and institutional conditions: to support them. Further factors that affect the complex set of causal relationships are the degree to which workplace interventions can produce a 'healthy' workplace; the individual's attachment to or value judgement of employment; the security of employment, as well as the more general socio-economic context.

In addition to the key sub-groups to be affected by ill-health, we also attempted to break down the picture for the East Midlands as a whole and provide a detailed, sub-regional analysis. Whilst this was not always possible, the structure utilised by Beatty, Fothergill et al. (2002) provides a better understanding of key problems in the distinct areas of the cities, suburban areas, former coalfields, industrial towns, and mainly rural areas. The variety of social contexts contained within these areas calls for a more detailed investigation into their respective understandings of health and

employability. There is not only a need for more detailed statistical analysis but also qualitative work such as that undertaken on the coalfields and their development (Gore, Fothergill et al. 2007) as well as on joined-up research on deprived neighbourhoods where unemployment is only a part of the problem (Sanderson 2006). This is especially true for the suburban areas where we have virtually no information on the relationship between employability and health but also for industrial towns where our knowledge is very patchy. We have more reliable and consistent data on the main cities of Derby, Nottingham and Leicester, even though we may not fully understand the specific dynamics in each, and on the former coalfields with their more typical situation of relative deprivation, and need for (re-)development. Data is again very patchy for the mainly rural areas of the East Midlands which include areas that seem to be fairing well both with regards to employment and health and areas - for example on the Lincolnshire coast - that show more resemblance to the situation in the former coalfields. More detailed investigations are necessary to fully understand the social dynamics and sub-regional variation indicated.

On the basis of our research, we considered the current provision of interventions to improve the health of the workforce in the East Midlands. There are clearly a whole host of policies and strategies in place and many of the issues outlined in this report have been recognised at the regional level. As is the case at national level, there is a particular need to further improve knowledge of what constitutes good jobs to allow further improvements of interventions to support employers to offer such openings into the labour market. Health provisions by employers should become a key consideration and both employers and trade unions should contribute to making health a central consideration to all decisions and interventions. In addition, local multi-agency employment teams should be further encouraged to target those outside, or on the margins of, the labour market. A key development for the East Midlands would be the development of workplace models for carers to ensure that caring is compatible with economic activity. Overall, easily accessible information on rights and responsibilities would allow individuals who suffer from poor health, whether they are in the labour market or not, to make informed decisions on their options.

Appendix 1: Search Strategies

Health databases	Social sciences databases
Campbell Collaboration	ASSIA
Cinahl (Dialog)	Business Source Premier
DH Data (Dialog)	Econlit
Embase (Ovid)	Expanded Academic ASAP
Kings Fund (Dialog)	IBSS
Medline (Ovid)	PsycArticles
Science Citation Index (ISI Web of Knowledge)	PsycInfo
Social care online	Scopus
	Social Science Citation Index
	Social Services Abstracts
	Sociological Abstracts

Care Service Improvement Partnership www.csip.org.uk/
 Centre for Economic & Social Inclusion www.cesi.org.uk/
 East Midland Public Health Observatory www.empho.org.uk/
 Government Office for the East Midlands www.gos.gov.uk/goem/euro/
 Institute for Employment Studies www.employment-studies.co.uk
 Institute for Public Policy Research www.ippr.org/
 Job Centre Plus (Department of Work and Pensions) www.dwp.gov.uk/
 Learning and Skills Council (LSC) www.lsc.gov.uk/

Medline search strategies

Medline 1.

- 1 economic performance.mp.
- 2 incapacity benefit.mp.
- 3 exp "Cost of Illness"/ or costs of illness.mp.
- 4 exp *Economics/ or economic activity.mp.
- 5 socioeconomic factors.mp. or exp Socioeconomic Factors/
- 6 burden of illness.tw.
- 7 disease costs.tw.
- 8 cost of sickness.tw.
- 9 sickness cost\$.tw.
- 10 burden of disease.mp.
- 11 or/1-10
- 12 absenteeism.mp. or Absenteeism/
- 13 employability.tw.
- 14 labour market participation.tw.
- 15 labor market participation.tw.
- 16 hidden unemploy\$.tw.
- 17 unemployment.mp. or Unemployment/
- 18 labour market\$.tw.
- 19 labor market\$.tw.

20 exp Sick Leave/ or sickness absence.mp.
 21 illness day\$.tw.
 22 sick day\$.tw
 23 sickness benefit\$.tw.
 24 disability leave.tw.
 25 exp Occupations/
 26 occupation.tw.
 27 workforce.mp.
 28 manpower.tw.
 29 workers.tw.
 30 labour force.tw.
 31 labor force.tw.
 32 underemployment.tw.
 33 supported employment.tw.
 34 exp *Employment/
 35 or/12-34
 36 11 and 35
 37 exp *Health Status/
 38 36 and 37
 39 limit 38 to (humans and english language
 40 limit 39 to yr="1980 - 2008"
 41 great britain.mp. or exp Great Britain/
 42 40 and 41

Medline 2: Chronic Illness

1 long term illness.mp.
 2 chronic illness.mp. or Chronic Disease/
 3 long term disease.mp.
 4 exp Arthritis, Rheumatoid/ or exp Arthritis/ or arthritis.mp.
 5 Diabetes Mellitus, Type 1/ or diabetes.mp. or Diabetes Mellitus, Type 2/
 6 copd.mp. or exp Pulmonary Disease, Chronic Obstructive/
 7 exp Asthma/ or asthma.mp.
 8 heart disease.mp. or exp Heart Diseases/
 9 Depression/ or depression.mp.
 10 depressive disorders.mp. or exp Depressive Disorder/
 11 Schizophrenia/ or schizophrenia.mp.
 12 back pain.mp. or exp Back Pain/
 13 exp Neoplasms/ or cancer
 14 exp Obesity or obesity
 15 or/1-14
 16 economic performance.mp
 17 incapacity benefit.mp.
 18 exp "Cost of Illness"/ or costs of illness.mp.
 19 exp *Economics/ or economic activity.mp.
 20 socioeconomic factors.mp. or exp Socioeconomic Factors/
 21 burden of illness.tw.
 22 disease costs.tw.
 23 cost of sickness.tw.
 24 sickness cost\$.tw.
 25 burden of disease.mp.

26 or/16-25
27 absenteeism.mp. or Absenteeism/
28 employability.tw.
29 labour market participation.tw.
30 labor market participation.tw.
31 hidden unemploy\$.tw.
32 unemployment.mp. or Unemployment/
33 labour market\$.tw.
34 labor market\$.tw.
35 exp Sick Leave/ or sickness absence.mp.
36 illness day\$.tw.
37 sick day\$.tw.
38 sickness benefit\$.tw.
39 disability leave.tw.
40 exp Occupations/
41 occupation.tw.
42 workforce.mp.
43 manpower.tw.
44 workers.tw.
45 labour force.tw.
46 labor force.tw.
47 underemployment.tw.
48 supported employment.tw.
49 exp *Employment/
50 or/27-49
51 25 and 50
52 exp *Health Status/
53 51 and 52
54 limit 53 to (humans and english language)
55 limit 54 to yr="1980 - 2008"
56 great britain.mp. or exp Great Britain/
57 55 and 56
58 limit 57 to "costs (optimized)"

Appendix 2: Unemployment by District, January 2002 (Beatty, Fothergill et al. 2002)

	Claimant Count (%)	Real Unemployment (%)
Mansfield	4.5	15.7
Bolsover	4.3	15.4
Nottingham	6.1	14.3
Chesterfield	5.3	14.2
Bassetlaw	4.8	14.2
East Lindsey	4.2	13.2
Ashfield	4.1	13.1
Leicester	6.2	13.0
Lincoln	4.3	11.9
Corby	3.4	10.8
Newark and Sherwood	2.7	10.8
North East Derbyshire	3.6	10.6
Derby	4.5	10.4
West Lindsey	3.5	10.3
Boston	2.5	9.4
Gedling	2.4	8.5
Amber Valley	2.7	8.3
South Derbyshire	1.9	8.2
Broxtowe	2.4	7.7
North West Leicestershire	2.0	7.6
Erewash	3.0	7.1
South Holland	1.9	6.9
North Kesteven	1.7	6.2
Kettering	1.8	6.2
Wellingborough	2.5	5.7
Northampton	3.0	5.6
High Peak	2.0	5.6
South Kesteven	2.0	5.6
Oadby and Wigston	2.3	5.5
Rushcliffe	1.5	5.1
Charnwood	2.4	4.9
Daventry	1.6	4.9
Blaby	1.6	4.8
Melton	1.4	4.7
Derbyshire Dales	1.6	4.6
Hinckley and Bosworth	1.8	4.4
East Northamptonshire	1.8	4.2
Harborough	1.3	3.4
Rutland	0.6	3.1
South Northamptonshire	0.9	2.7

Appendix 3: JSA Caseload (Thousands): Government Office Region by Local Authority of Claimant by Age of Claimant

	Government Office region = East Midlands											
	Total	Age of claimant					Total	Age of claimant				
		Caseload (Thousands)	Unknown Age Caseload (Thousands)	Under 18 Caseload (Thousands)	18-24 Caseload (Thousands)	25-34 Caseload (Thousands)		35-44 Caseload (Thousands)	45-49 Caseload (Thousands)	50-54 Caseload (Thousands)	55-59 Caseload (Thousands)	60-64 Caseload (Thousands)
Derby	4.19	0.01	0.05	1.18	1.12	0.88	0.35	0.27	0.28	0.04		
Leicester	8.21	0.02	0.1	2.31	2.03	1.59	0.8	0.67	0.65	0.05		
Nottingham	7.38	0.02	0.02	2.47	1.9	1.54	0.58	0.44	0.38	0.04		
Rutland	0.14	-	-	0.03	0.03	0.03	0.02	0.01	0.01	-		
Amber Valley	1.31	0.01	0.02	0.39	0.25	0.26	0.11	0.12	0.14	0.02		
Bolsover	1.13	-	0.01	0.37	0.25	0.23	0.09	0.08	0.09	0.01		
Chesterfield	1.73	-	0.02	0.48	0.4	0.36	0.16	0.15	0.14	0.03		
Derbyshire Dales	0.4	-	-	0.08	0.1	0.09	0.04	0.04	0.04	0.01		
Erewash	1.53	-	0.03	0.44	0.33	0.32	0.12	0.12	0.15	0.02		
High Peak	0.95	0.01	0.01	0.26	0.21	0.18	0.1	0.08	0.1	0.01		
North East Derbyshire	1.1	-	-	0.29	0.24	0.23	0.09	0.1	0.12	0.03		
South Derbyshire	0.61	-	0.01	0.18	0.13	0.11	0.04	0.07	0.06	0.01		
Blaby	0.64	-	0.01	0.18	0.14	0.1	0.07	0.06	0.07	0.01		
Charnwood	1.51	0.01	0.04	0.43	0.34	0.29	0.13	0.12	0.13	0.03		
Harborough	0.41	-	-	0.1	0.08	0.07	0.05	0.04	0.06	0.01		
Hinckley and Bosworth	0.89	-	-	0.25	0.2	0.17	0.08	0.09	0.08	0.01		
Melton	0.35	-	-	0.09	0.07	0.08	0.04	0.02	0.04	0.01		
North West Leicestershire	0.85	0.01	0.01	0.25	0.18	0.15	0.07	0.08	0.09	0.01		

Oadby and Wigston	0.55	-	0.01	0.13	0.15	0.11	0.05	0.04	0.05	0.01
Boston	0.75	0.01	0.01	0.23	0.18	0.12	0.06	0.06	0.07	0.01
East Lindsey	1.56	0.01	0.01	0.41	0.32	0.29	0.16	0.14	0.19	0.03
Lincoln	1.76	0.01	0.02	0.55	0.42	0.33	0.15	0.13	0.13	0.02
North Kesteven	0.76	-	-	0.25	0.14	0.13	0.07	0.07	0.08	0.01
South Holland	0.84	-	0.01	0.24	0.16	0.16	0.08	0.09	0.09	0.02
South Kesteven	1.06	-	-	0.3	0.23	0.22	0.1	0.1	0.09	0.01
West Lindsey	1.08	-	0.02	0.3	0.25	0.22	0.08	0.09	0.1	0.02
Corby	0.99	-	0.01	0.32	0.23	0.21	0.09	0.06	0.06	-
Daventry	0.63	0.01	0.01	0.18	0.11	0.12	0.06	0.06	0.08	0.01
East										
Northamptonshire	0.85	-	-	0.25	0.17	0.19	0.08	0.06	0.08	0.01
Kettering	1.09	-	0.02	0.31	0.24	0.24	0.09	0.08	0.09	0.02
Northampton	3.3	-	0.05	0.88	0.75	0.75	0.34	0.25	0.25	0.04
South										
Northamptonshire	0.42	-	-	0.08	0.08	0.1	0.04	0.05	0.06	0.01
Wellingborough	1.13	-	-	0.34	0.24	0.22	0.11	0.1	0.11	0.02
Ashfield	1.58	0.01	0.02	0.54	0.34	0.3	0.12	0.12	0.11	0.02
Bassetlaw	1.2	-	0.01	0.36	0.26	0.23	0.12	0.09	0.11	0.02
Broxtowe	1.16	-	-	0.35	0.27	0.21	0.11	0.1	0.1	0.02
Gedling	1.25	0.01	-	0.37	0.26	0.24	0.12	0.11	0.11	0.02
Mansfield	1.5	0.01	0.02	0.54	0.35	0.28	0.12	0.1	0.08	0.01
Newark and Sherwood	1.1	0.01	0.01	0.35	0.23	0.21	0.1	0.09	0.08	0.01
Rushcliffe	0.66	0.01	-	0.15	0.14	0.14	0.08	0.08	0.06	0.01

DEFINITIONS AND CONVENTIONS: "-" Nil or Negligible; "." Not applicable; Caseload figures are rounded to the nearest 10; Some additional disclosure control has also been applied. Average amounts are shown as pounds per week and rounded to the nearest penny. Totals may not sum due to rounding.

SOURCE: DWP Information Directorate: Work and Pensions Longitudinal Study.

Notes: Age of claimant Except for some particular circumstances, young people aged 16-17 are generally excluded from receiving benefits as unemployed people.

Appendix 4: IB Caseload, East Midlands

Incapacity Benefit Caseload (Thousands) : Government Office region by Duration of current claim (days) by Age of claimant										
Time Series=MAY07										
Government Office region = East Midlands										
	Total	Age of claimant								
		Unknown age	16-17	18-24	25-34	35-44	45-49	50-54	55-59	60-64
	Caseload (Thousands)									
Total	159.38	-	0.46	10.22	17.92	31.68	20.36	23.93	32.31	22.50
Duration of current claim (days)										
Up to 3 months	8.40	-	0.11	1.34	1.49	1.91	1.03	0.95	1.09	0.47
3 months up to 6 months	7.50	-	0.09	1.08	1.33	1.68	0.91	0.92	1.03	0.46
6 months up to 1 year	10.81	-	0.15	1.32	1.79	2.47	1.30	1.31	1.67	0.79
1 year and up to 2 years	16.13	-	0.11	1.78	2.43	3.51	2.00	2.11	2.66	1.54
2 years and up to 5 years	35.85	-	-	3.14	4.94	7.44	4.41	4.99	6.57	4.35
5 years and over	80.69	-	-	1.56	5.93	14.67	10.69	13.66	19.29	14.89
Unknown duration	-	-	-	-	-	-	-	-	-	-

DEFINITIONS AND CONVENTIONS: "-" Nil or Negligible; "*" Not applicable; Caseload figures are rounded to the nearest tent; Some additional disclosure control has also been applied. Average amounts are shown as pounds per week and rounded to the nearest penny. Totals may not sum due to rounding.

SOURCE: DWP Information Directorate: Work and Pensions Longitudinal Study.

Notes:
Age of claimant Although in general Incapacity Benefit applies to people of working age, a small number of claimants are over State Pension age. Further details are provided in Background Information.

Appendix 5: Carer's Allowance Caseload, East Midlands

Carer's Allowance - all entitled cases Caseload (Thousands) : Working Age/Pension Age split by Duration of current claim (days) by Government Office region										
Time Series=MAY07										
Working Age/Pension Age split = Working Age										
	Total	Government Office region								
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West
	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)	Caseload (Thousands)
Total	491.95	28.85	70.83	47.84	96.96	51.21	37.86	51.26	47.61	35.82
Duration of current claim (days)										
Up to 3 months	22.58	1.26	3.27	2.22	1.70	2.32	1.74	2.25	2.16	1.68
3 months up to 6 months	23.87	1.30	3.51	2.33	1.79	2.43	1.81	2.52	2.37	1.84
6 months up to 1 year	45.09	2.52	6.65	4.33	3.43	4.72	3.56	4.61	4.51	3.35
1 year and up to 2 years	73.77	4.10	10.36	6.90	5.68	7.61	5.81	8.09	7.57	5.64
2 years and up to 5 years	134.72	7.37	18.98	12.60	10.02	13.67	10.62	14.94	13.41	9.92
5 years and over	191.32	12.31	28.06	19.47	14.34	20.27	14.32	18.85	17.60	13.40
Unknown duration	-	-	-	-	-	-	-	-	-	-

DEFINITIONS AND CONVENTIONS: "-" Nil or Negligible; "*" Not applicable; Caseload figures are rounded to the nearest ten; Some additional disclosure control has also been applied; Average amounts are shown as pounds per week and rounded to the nearest penny; Totals may not sum due to rounding.

SOURCE: DWP Information Directorate: Work and Pensions Longitudinal Study.

Notes:
Caseload (Thousands) Totals show the number of people who are entitled to receive CA, including those who receive no actual payment.

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