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THE WORK FOUNDATION
PART OF LANCASTER UNIVERSITY

Complexities and challenges

working with multiple health conditions

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About us

Through its rigorous research programmes targeting organisations, cities, regions and economies, now and for future trends; The Work Foundation is a leading provider of analysis, evaluation, policy advice and know-how in the UK and beyond.

The Work Foundation addresses the fundamental question of what Good Work means: this is a complex and evolving concept. Good Work for all by necessity encapsulates the importance of productivity and skills needs, the consequences of technological innovation, and of good working practices. The impact of local economic development, of potential disrupters to work from wider-economic governmental and societal pressures, as well as the business-needs of different types of organisations can all influence our understanding of what makes work good. Central to the concept of Good Work is how these and other factors impact on the well-being of the individual whether in employment or seeking to enter the workforce.

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Executive summary

People who experience multiple long-term health conditions have poorer outcomes for a range of employment-related measures and the chances of being in employment is reduced as the number of conditions increases particularly where there is a combination of mental and physical health conditions. This is a large and growing proportion of the population. We estimate that there are some 5 million people in England alone, whose complex health-issues are currently, or may in the future, affect their ability to work.

Our analysis and previous evidence, indicates that the cumulative effect of having multiple conditions and the complexity faced by people managing multiple health conditions while in the labour market affects their employment outcomes. The importance of mental illness is abundantly clear. Mental illness has a substantial and highly detrimental impact on employment outcomes when occurring on its own, but even more so where occurring alongside a physical health condition.

In terms of physical conditions, musculoskeletal disorders were most frequently identified as contributing to difficulty with dexterity, mobility, and in particular causing pain or discomfort. These impairment factors were identified as having the greatest effect on ability to work.

Managing multiple long-term health conditions at work not only has implications for individuals but for employers, the health care system and ultimately for UK labour-market productivity and this impact can only grow as the population ages and the number of older people in work increases, due to the removal of the default retirement age and rising age thresholds for the UK state-pension come into effect.

However the clear and very positive message here is that for many people with multiple, long-term health conditions, work is a positive part of their lives, indicating that the ability to manage complex and multiple conditions brings important returns to individuals, employers and indeed society as a whole.

Analysis and results

Our report examines the implications for those of working age with long-term health conditions and in particular those who suffer from comorbidities (the presence of multiple long-term health conditions). We examine the effect on employment and 'what works;' in terms of managing and supporting people with long-term health conditions to remain, and to be productive, in work. To do this, we draw together evidence from the literature, undertake analyses of national survey data and augment this with qualitative interviews of those managing multiple health conditions in work.

From the literature, we find that comorbidity prevalence is higher for specific groups such as older workers, those from low socio-economic backgrounds and for women. Being female increases the likelihood of co-occurrence of physical, mental, or physical and mental long-term conditions. Although the number and types of comorbidity patterns vary, the research reviewed showed an association between physical and mental disorders including a possible causal reciprocal link between the two. Comorbidity impacts negatively, in terms of costs both

to the individual and to society especially where there is a physical and mental comorbidity. A number of national surveys show that people with two or more long-term health conditions are less likely to be in employment. Co-morbid mental health disorders appear to have a further negative effect on work participation, absenteeism and presenteeism.

Our secondary analysis of the 2013 Health Survey for England, to examine employment outcomes, revealed that having multiple long-term health conditions is common, experienced by 1 in 7 of the working age population, and 1 in 10 of current employees. This has an adverse effect on employment. Not only are those with comorbidities less likely to be working, or in the labour market, this influences the nature of the jobs that those affected are able to do. Individuals with comorbidities have lower levels of self-reported wellbeing. For those with multiple long-term health conditions (and particularly where this included mental health conditions), higher reported levels of functional impairment further restricts workability.

The effect of having multiple conditions is influenced by an individual's age and gender – with worse employment outcomes found in oldest age groups. Interestingly, younger women appeared more likely than younger men to have multiple long-term health conditions, which influence employment outcomes and also participation levels in education. Job security concerns were greater among those with comorbidities regardless of age.

Where symptoms result in functional impairments, there was a clear negative and additive effect on employment rates of having more than one long-term health condition. There was also a greater negative additional effect for those who experienced a mental health condition as one of their conditions. These effects were reflected in employment rates, in wellbeing scores and in perceptions of job security.

In summary, we found through the analysis of the 2013 Health Survey for England that:

- Fourteen percent of working age (16-64 years) respondents had two or more long-term health conditions; and two thirds of these were aged over 45 years.
- The employment rate decreases with the number of health conditions experienced.
- Forty-eight percent of all those with multiple long-term health conditions were in work but only 33% of those whose comorbidity included at least one mental health condition were working.
- Just over one third of individuals with multiple long-term health conditions were limited 'a lot' in their daily activities.
- Certain types of functional impairment were associated with particularly low levels of employment. However, those who reported no functional impairment associated with their comorbid long-term health conditions were still marginally less likely to be in work than the population with no long-term health condition.
- Those with comorbidity were less likely to be employed in managerial and professional roles and more likely to be employed in routine manual positions compared to those with one or no health condition.

Following from this survey analysis we were able to interview a sample of those who has reported comorbidity in Health Survey for England to increase our understanding of their experiences and working lives. Respondents were of working age, had reported at least two long-term health conditions (comorbid) and were in paid employment at the time of the original survey although a number of respondents had subsequently stopped working.

We found that being out of work at this time was not associated with any particular type of long-term health condition, or the type of comorbidity combination (physical only or physical

and mental). Working respondents with both mental and physical long-term health conditions were more likely than people with physical long-term health conditions only, to have had long-term absence from work and to have left a job because of their health.

Despite experiencing multiple long-term health conditions, the clear majority of participants felt that their 'workability' (***current ability to work compared with lifetime best***) was high. Some 30% responding that their workability it was at its best. Disorders of the musculoskeletal system, eyes and mental health were associated with lower workability scores compared to those with other conditions and workability scores were significantly lower for those with two musculoskeletal disorders.

Regardless of the specific long-term health conditions, types of symptoms or functional impairments **severity** can have a significant effect on work. Difficulty with dexterity, mobility and pain or discomfort – all symptoms associated with musculoskeletal disorders – were identified as having the greatest effect on workability. In addition, there was considerable variation in the frequency with which people with multiple long-term health conditions were affected by symptoms. Such fluctuation of condition can present specific challenges in a work environment as we have highlighted in previous research.

Job satisfaction decreased as the number of health conditions increased and those with musculoskeletal conditions had lower job satisfaction compared to those without. Greater perceived likelihood of changing job (in the next two years) due to health was associated with self-reported poor health.

Support

In terms of support for employees with comorbid conditions, adjustments by employers which take into account workers needs were found to be helpful for retention.

"Changes to working hours, breaks or shift patterns" was the employment adjustment identified as 'most helpful to stay in work'.

Most respondents felt that their GP had a good understanding of what affected their ability to work. The majority found their GP helpful in enabling them to manage their health conditions at work or while looking for work. The majority also found that Occupational Health Services were valuable in managing health conditions at work.

"Changes to working hours, breaks or shift patterns" was the employment adjustment identified as 'most helpful to stay in work'.

However, as the number of health conditions increased, perception of effectiveness of treatments for managing conditions at work decreased.

This greater difficultly in effectively treating multiple conditions has implications for long-term workability, retention in employment and its impact on individuals, employers and society and therefore warrants greater effort and attention by relevant stakeholders to ensure positive benefit to all. In the conclusion of our report we set out a range of actions which can contribute to meeting this challenge.

1. Introduction

For many people, managing a long-term health condition while also working is a challenge. An estimated one in three current employees have at least one long-term health condition[1] and 42% of these report that their health affects their work.[2] Functional aspects of having a long-term health condition, along with the stigma and discrimination associated with poor health[3], are major contributors to the gap in employment rates between people with long-term health conditions and disabilities compared to healthy individuals. There are also differential employment rates *between* people with different types of long-term health conditions[4].

It is increasingly accepted that work is in many cases therapeutic and positive for health. It promotes full participation in society, reduces poverty, leads to better health outcomes, minimises the negative effects of long-term sickness absenteeism, and promotes recovery and rehabilitation.[5] There are substantial health and wellbeing risks associated with extended periods of unemployment – not only are unemployed people likely to be in poorer health than employed people, but there is also evidence that unemployment causes poor mental health, including depression and anxiety.[6] The health of the working age population is a considerable challenge and the number and proportion of employees with long-term health conditions is likely to rise – influenced by factors such as an ageing population, increased prevalence of largely preventable chronic conditions, and the removal of default retirement age. This growing presence of long-term health conditions among those of working age and within the workforce, has significant implications for employers, as well as for UK productivity It is important, therefore, to learn more about 'what works;' in terms of managing and supporting people with long-term health conditions to remain, and to be productive, in work.

Having more than one long-term health condition - also known as having 'comorbidities' - is associated with worse health and worse employment outcomes. As we will explore, comorbidities present additional challenges for individuals, for the health system and for employers[7] [8]. Despite this, data is currently limited on the range and extent of comorbidities in the working age population and in the workforce, and how this is being managed to help people to stay in work. Indeed, the way we consider health at work is often on a single, or main, condition basis – reflecting the majority of UK treatment guidelines. Employers will vary in their practice, but

(1) Analysis of Health Survey for England (HSE) data – see Chapter 4.
(2) Steadman, Wood, and Silvester (2015) Health and wellbeing at work: a survey of employees, 2014. London: The Stationery Office. Available from: https://www.gov.uk/government/publications/health-and-wellbeing-at-work-survey-of-employees
(3) Black, C. (2008) Working for a healthier tomorrow. London: The Stationery Office.
(4) DWP (2015) Working age people in Great Britain by main health problem. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/406369/labour-force-survey-disabled-people.pdf
(5) Waddell, G. and Burton, A.K. (2006) Is Work Good for your Health and Well-Being? London: The Stationery Office
(6) Paul, K.I. and Moser, L. (2009) Unemployment impairs health: meta-analyses, Journal of Vocational Behaviour, 74, pp. 264-282
(7) Naylor, C., Parsonage, M., McDaid, D., Knapp, M., Fossey, M. and Galea, A. (2012) Long-term conditions and mental health: The cost of co-morbidities, The Kings Fund
(8) Schofield, D. J., Shrestha, R. N., Passey, M. E., Earnest, A., & Fletcher, S. L. (2008). Chronic disease and labour force participation among older Australians. [Research Support, Non-U.S. Gov't]. Med J Aust, 189(8), 447-450

many sickness absence systems are also designed only to record a single or main condition. Such practice limits what is known about multiple health conditions and their relationship with employment. Indeed, only permitting the reporting of a single 'main' condition may be acting to disguise the overall health factors which are affecting an individual's ability to work.

In this report we seek to add to the evidence-base around the labour market implications of having multiple health conditions, and how they might be managed to support people better to stay in employment. The report is structured in three parts:

- What we know about comorbidities: A review
- Comorbidities and employment: The evidence
- Comorbidities and working: New research

2. Methodology

The methodology for the study involved three stages. First, a review of the literature was carried out to improve our understanding of the existing evidence, and the gaps in the knowledge.

Second, a secondary analysis was carried out of data from Health Survey for England 2013 (accessed through the UK data service). The analysis focused on the working age population, defined in this context as those aged 16-64[9] and is described in more detail in Chapter 4.

The third strand of research, outlined in Chapter 5, utilised a new questionnaire, developed by The Work Foundation. This was used with a sample of 500 people who were recruited from Health Survey for England based on the following criteria:

- Reported at least two long-term conditions (comorbidity)
- Of working age (16-64)
- In paid employment at the time of original Health Survey for England interview

The survey was undertaken by NatCen Social Research, who also conduct the Health Survey for England. The respondents were given personal identifiers which enabled the linking of data collected in the new questionnaire, to the data collected in Health Survey for England. To achieve the target number of 500 interviews, the sample included people interviewed for the Health Survey for England in 2014, 2013, 2012 and 2011.

Further details of the methodologies for the analysis of Health Survey for England data and the primary research survey are provided in Chapters 4 and 5.

(9) English pension qualification age at the time was 65 for both men and women.

Summary - what we know about comorbidities

Evidence reviewed suggests that comorbidity prevalence is high and is expected to increase further. Older age, low socio-economic background and gender are among the factors influencing the co-occurrence of physical, mental, or physical and mental long-term conditions. Although the number and types of comorbidity patterns are numerous, research has found an association between physical and mental disorders, suggesting a causal reciprocal link between the two. The case for investigating comorbidity is made more compelling by the evidence of negative impact, as it exacerbates costs both for the individual and for society. This is the case especially for physical and mental comorbidity.

3. What we know about comorbidities: a review

3.1 Defining comorbidity and its prevalence

Comorbidity, the co-occurrence of two or more long-term health conditions, can refer to the co-existence of two or more physical health conditions, two or more mental health conditions or a mix of both.

Over 15 million people in England are estimated to have at least one long-term health condition.10 This includes manageable, though not curable physical conditions such as diabetes, arthritis, asthma, some cardiovascular diseases, HIV/AIDS, and certain cancers. It also includes mental health problems, which provide the largest single source of disability in the UK, accounting for 23% of the burden of diseases (a measure of mortality rate and quality of life).11 Depression and coronary heart disease are the leading causes of concern12 and it has been predicted that by 2020 they will be the main sources of disease burden in the world.13 Further, the costs and risks associated with these particular conditions are exacerbated not only by the fact that they are widespread, but also because they often co-exist with each other or with other conditions.

Although life-expectancy in many developed countries is over 80 years of age, it is estimated that half of today's new-borns will live their last 15 years with comorbidity.[14] In the UK, a Department of Health projection identified that although the prevalence of people with a single long-term health condition was expected to remain stable, the number with multiple long-term health conditions is set to rise (from an estimated 1.9 million in 2008 to 2.9 million in 2018).[15] Research from overseas suggests that the chance of having multiple long-term health conditions is much higher. An Australian study[16] which examined comorbidity patterns in two large primary care practices using the Cumulative Illness Rating Scale (CIRS)[17] found that across all ages, an average of 52% of patients had two or more long-term health conditions, with musculoskeletal the most common disease domain. A Canadian study found nine out of ten patients in family practices had more than one chronic condition and that 50% had five or more, the most common diagnoses being hypertension, hyperlipidaemia (high cholesterol - a risk factor for coronary heart disease), and musculoskeletal disorders.[18] This is also reflected to a lesser, though still considerable, extent in the UK, where according to the General Practice Research Database an estimated 20% of primary care patients have at least two long-term health conditions.[19]

(10) Health and Social Care Information Centre. (2010-11). Quality and Outcomes Framework
(11) WHO. (2008). The global burden of disease: 2004 update Geneva: World Health Organisation
(12) WHO. (2008). The global burden of disease: 2004 update Geneva: World Health Organisation.
(13) Murray, C. J. L., & Lopez, A. D. (1996). *In the global burden of disease: a comprehensive assessment of mortality and disability from disease, injuries, and risk factors in 1990 and projected to 2020*. Cambridge: Harvard University Press on behalf of the World Health Organization and the World Bank.
(14) Brett, T., Arnold-Reed, D. E., Popescu, A., Soliman, B., Bulsara, M. K., Fine, H., Moorhead, R. G. (2013). Multimorbidity in patients attending 2 Australian primary care practices. *The Annals of Family Medicine, 11*(6), 535-542.
(15) Department of Health. (2012). Long Term Conditions Compendium of Information *Third edition*. London: NHS. The background to this data is limited however and there is reason to believe these are substantial underestimates.
(16) Brett, T., Arnold-Reed, D. E., Popescu, A., Soliman, B., Bulsara, M. K., Fine, H., Moorhead, R. G. (2013). Multimorbidity in patients attending 2 Australian primary care practices. *The Annals of Family Medicine*, 11(6), 535-542.
(17) A user-friendly scale of five levels used to assess the severity of morbidities.
(18) Sampalli, T., Fox, R. A., Dickson, R., & Fox, J. (2012). Proposed model of integrated care to improve health outcomes for individuals with multimorbidities. *Patient Prefer Adherence, 6*, 757-764.
(19) Brilleman, S. L., Purdy, S., Salisbury, C., Windmeijer, F., Gravelle, H., & Hollinghurst, S. (2013). Implications of

3.2 Demographics

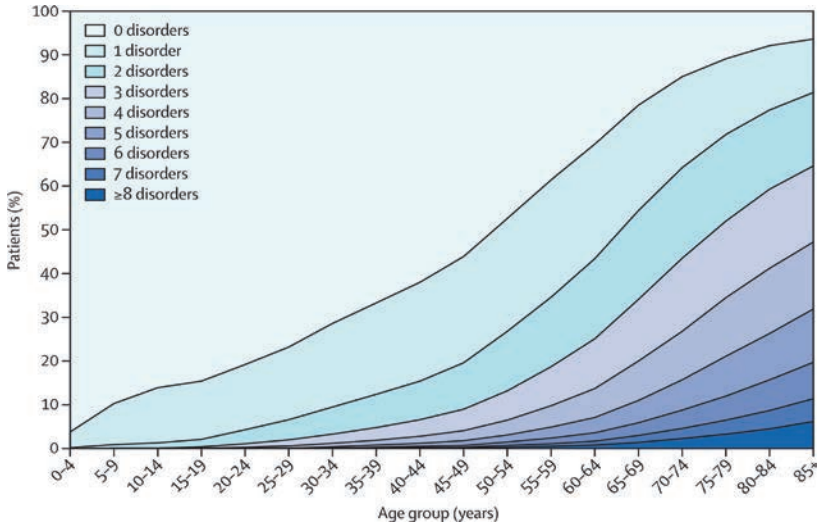
As might be expected, the increased presence of multiple long-term health conditions is often associated with increasing age. This is demonstrated in Table 1 which shows the comorbidities and multiple morbidity prevalence rate from a 2013 study of Australian Primary Care Practices.

Table 1 Co and Multi-Morbidities Prevalence Rate - Australian Primary Care Practices[20]

Age Group (years)	Comorbidities prevalence %	Three or more long-term health conditions %
under 25s	20.6	4.8
25 to 44	43.7	22.3
45 to 64	75.5	56.1
65 to 74	87.5	74.6
75 and older	97.1	92.0

An analysis of Scottish primary care patient data also found that the number of morbidities and the proportion of people with multiple long-term health conditions increased substantially with age – by age 50 years, half of the population had at least one long-term health condition, and by age 65 years most had multiple long-term health conditions (Figure 1). It is interesting to note however, that although older people were found to have more long-term health conditions on average in absolute numbers, there were more people with long-term health conditions aged under 65.[21]

Figure 1: Number of Chronic Conditions by Age Group21[21]



Low **socio-economic status** can also be associated with ill health. For example, a meta-analysis by Druss and von Esenwein found that people of low socio-economic status are 1.8 times more likely to report depression.[22] The evidence that long-term health conditions, and in particular mental illness, are correlated with poverty is reflected in the data on multiple long-term health

comorbidity for primary care costs in the UK: a retrospective observational study. *British Journal of General Practice*.
(20) Brett, T., Arnold-Reed, D. E., Popescu, A., Soliman, B., Bulsara, M. K., Fine, H., Moorhead, R. G. (2013). Multimorbidity in patients attending 2 Australian primary care practices. *The Annals of Family Medicine*, 11(6), 535-542.
(21) Barnett, K., Mercer, S., Norbury, M., Watt, G., Wyke, S., & Guthrie, B. (2012). Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet*, 380(9836), 37-43.
(22) Druss, B. G., & von Esenwein, S. A. (2006). Improving general medical care for persons with mental and addictive disorders: systematic review. *General Hospital Psychiatry, 28*(2), 145-153.

conditions. For example, Barnett et al. found that comorbidity occurred 10-15 years earlier in people living in the more deprived areas compared to the most affluent ones.[23]

Gender may be a significant factor, with research indicating that the rate of co-morbidity is higher for women than men.[24] In particular, women were more likely to experience co-morbid mental distress and chronic pain than men, and this was further associated with not being in paid work, and having more time off work[25].

A review of published evidence on relationship between work and comorbidity is explored later in Chapter 4 and new evidence is analysed in Chapter 5.

3.3 Condition patterns

Patterns of comorbidity are numerous, but not accidental. A review of the literature on comorbidity patterns found 97 patterns composed of two or more long-term health conditions and 63 of three or more long-term health conditions.[26] The review identified common patterns of comorbidity with the three main groups identified as:

1. Combination of core cardiovascular and metabolic diseases (i.e. hyperlipidaemia, hypertension, heart disease, diabetes, and obesity) with similarities to the metabolic syndrome;[27]
2. Mental health problems comorbid with a variety of other conditions (in particular thyroid disease, and pain);
3. Musculoskeletal disorders comorbid with a variety of other conditions (obesity, prostatic hypertrophy and Gastroesophageal Reflux Disease (GERD)).

The results suggest that patterns are not random and there is need to further investigate the correlation between certain conditions. Identifying patterns of comorbidity is very complex - not only are there numerous possible combinations of diseases, but there is also lack of consensus on a scale to use to quantify and therefore compare comorbidities. Some symptoms such as fatigue, headaches and pain can be associated with more than one type of condition, making a correct diagnosis challenging.[28]

The co-existence of mental and physical health conditions is common. A 2012 paper estimated that in England, approximately 4.6 million people had both a long-term physical health condition and mental health problems.[29] The 2001-2003 National Comorbidity Survey Replication, showed that in one year, 34 million American adults, i.e. 17% of the total adult population, had co-occurring mental and physical impairments.[30]

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(23) Barnett, K., Mercer, S., Norbury, M., Watt, G., Wyke, S., & Guthrie, B. (2012). Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet, 380(9836), 37-43.

(24) Druss, B. G., & von Esenwein, S. A. (2006). Improving general medical care for persons with mental and addictive disorders: systematic review. General Hospital Psychiatry, 28(2), 145-153.

(25) Brennan Braden, J., Zhang, L., Zimmerman, F. J., & Sullivan, M. (2008). Employment outcomes of persons with a mental disorder and comorbid chronic pain Psychiatric Services, 59(8).

(26) Prados-Torres, A., Calderon-Larranaga, A., Hancco-Saavedra, J., Poblador-Plou, B., & van den Akker, M. (2014). Multimorbidity patterns: a systematic review. J Clin Epidemiol, 67(3), 254-266. doi:10.1016/j.jclinepi.2013.09.021

(27) **Metabolic syndrome** is the medical term for a combination of diabetes, high blood pressure and obesity

(28) Brett, T., Arnold-Reed, D. E., Popescu, A., Soliman, B., Bulsara, M. K., Fine, H., Moorhead, R. G. (2013). Multimorbidity in patients attending 2 Australian primary care practices. *The Annals of Family Medicine*, 11(6), 535-542.

(29) Naylor, C., Parsonage, M., McDaid, D., Knapp, M., Fossey, M., & Galea, A. (2012). *Long term conditions and mental health. The cost of co-morbidities* London: The King's Fund- Centre for Mental Health.

(30) Alegria, M., Jackson, J. S., Kessler, R. C., & Takeuchi, D. (2003). National Comorbidity Survey Replication (NCS-R), 2001–2003. Ann Arbor: Inter-university Consortium for Political and Social Research.

People with physical health conditions, including asthma, arthritis, cancer and HIV/AIDs, have higher levels of mental illness than identified in the general population.[31] Estimates of the prevalence of depression for people with coronary heart disease vary but there is at least a two-fold increase compared to people without coronary heart disease.[32] Compared to the rest of the population, the rate of mental illness in the UK is double for people with diabetes, hypertension and coronary artery disease, and triple for people with chronic obstructive pulmonary disease, and cerebrovascular disease.[33] In the US, half of the disabled psychiatric patients covered by Medicaid[34] also had claims for diabetes, cardiovascular disease or pulmonary disease.[35] The likelihood of having a mental health condition increases with the number of physical conditions - people with two or more co-morbid long-term physical conditions are seven times more likely to have depression.[36]

The directional link between mental illness and physical health conditions as comorbidity is not yet clear, the direction of onset seemingly going in both directions.[37] Having a physical health condition might influence the development of a mental health condition and vice versa. Evidence shows a range of patterns, including for example that chronic stress (a risk factor for mental illness) and depression are risk factors for cardiovascular diseases[38], or that physical pain (including migraine headaches or back pain) is highly predictive risk factor for developing mental illness.[39]

Causation is complex - as highlighted by our previous research, for some mental health conditions the cause may be physiological – meaning that body functions change as a result of the chronic physical health condition. For others the cause may be psychosocial – meaning that adjustment to the condition may increase the likelihood of developing a mental health condition[40]. For others still the mental health condition may have preceded the chronic physical health condition. Contributing factors may include the impact that mental illness can have on self-management and access to health services (with implications for prevention and early intervention), or on the likelihood of unhealthy behaviours such as smoking or drug and alcohol abuse.[41] Many people with severe mental health conditions experience high levels of physical health conditions. People with schizophrenia for example die 15-20 years earlier than the general population, with cardiovascular disease and diabetes particularly prominent. This is attributed in a large part to modifiable risk factors, including smoking, illicit drug use, poor diet

(31) Chapman, D. P., Perry, G. S., & Strine, T. W. (2005). The vital link between chronic disease and depressive disorders. *Preventing Chronic Diseases [serial online], 2*(1).
(32) Goodwin, R. D., Davidson, K. W., & Keyes, K. (2009). Mental disorders and cardiovascular disease among adults in the United States. Journal of Psychiatric Research, 43(3), 239-246.
(33) NICE. (2009). Depression in adults with chronic physical health problem: recognition and management, clinical guideline.
(34) Medicaid in the United States is a social health care program for families and individuals with low income and limited resources.
(35) Druss, B. G. (2011). Mental disorders medical comorbidity findings Princeton: Rober Wood Johnson Foundation.
(36) Moussavi, S., Chatterji, S., Verdes , E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health: results from the World Health Surveys. *Lancet*, 370(9590), 851-858.
(37) O'Neil, A., Williams, E. D., Stevenson, C. E., Oldenburg, B., & Sanderson, K. (2012a). Co-morbid depression is associated with poor work outcomes in persons with cardiovascular disease (CVD): a large, nationally representative survey in the Australian population. *BMC Public Health*, 12, 47.
(38) Benton, T., Staab, J., & Evans, D. L. (2007). Medical co-morbidity in depressive disorders. Annals of Clinical Psychiatry, 19(4), 289-303; Contrada, R., & Baum, A. (2010). The Handbook of Stress Science: Biology, psychology and health. New York: Springer; Druss, B. G. (2011). Mental disorders medical comorbidity findings
(39) Druss, B. G., Hwang, I., Petukhova, M., Sampson, N. A., Wang, P. S., & Kessler, R. C. (2009). Impairment in role functioning in mental and chronic medical disorders in the United States: results from the National Comorbidity Survey Replication. Mol Psychiatry, 14(7), 728-737. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18283278; Patten, S. B. (2001). Long-term medical conditions and major depression in a Canadian population study at Waves 1 and 2. Journal of Affective Disorders, 63(1-3).
(40) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation.
(41) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation.

and low physical activity, as well as side effects of the medication. This is further compounded by low rates of monitoring of risk factors by healthcare providers.[42]

The impact that these co-morbid conditions have on health outcomes and the costs associated with them is also under debate. For example, no consensus has been reached on whether comorbid conditions result in additive (1+1=2), synergistic (1+1>2) or antagonistic effects (1+1<2). However, all the research suggests that co-morbid health conditions worsen health outcomes and increases the burden associated with the conditions.[43]

The complex link between mental and physical health is perhaps most apparent when we consider medically unexplained symptoms – the experience of functional physical symptoms, where no underlying physical, anatomical disease or cause has been identified[44]. These symptoms are common in the general population with reported prevalence rates in primary care varying between 25 and 50%.[45] Such symptoms are common, though not exclusive, in patients who also have depression or anxiety disorders.[46]

3.4 Comorbidity: impact on health and healthcare costs

Having more than one long-term health condition has a considerable impact on people's lives, with costs for both individuals and for society.

3.4.1 Impact on health

A review of existing studies found that, compared to having only one long-term health condition, comorbidity is associated with higher symptom burden, functional impairment, lower quality of life and premature death.[47] Having multiple long-term health conditions has been found to be linked with slower medication effectiveness, higher suicide risk, poorer health service utilisation, and lower chance of survival.[48] [49]This is the case both for physical comorbidity and mental-physical comorbidity. For example, the literature suggests that people who experience both arthritis and chronic back pain have significantly higher risks of reporting activity limitation, of reporting poorer physical and mental health, and having more doctor consultations compared to individuals who reported having arthritis only or back problems only.[50] For co-occurring physical and mental long-term health conditions, a US study found that the impact on life in four domains - home, work, social life and relationships - may not only have an additive, but a synergetic effect, i.e. **the cumulative burden is higher than the addition of the individual**

(42) Bevan, S., Taskila, T., Steadman, K., Gulliford, J., Thomas, R., & Moise, A. (2013) Working with Schizophrenia: Pathways to employment, recovery and inclusion. The Work Foundation: London

(43) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation

(44) IAPT (2014) positive practice guide http://iapt.nhs.uk/silo/files/medically-unexplained-symptoms-postive-practice-guide-2014.pdf

(45) Hilderinka, P. H., Collardb, R., Rosmalenc, J. G. M., & Oude Voshaarc, R. C. (2012). Prevalence of somatoform disorders and medically unexplained symptoms in old age populations in comparison with younger age groups: A systematic review. *Ageing Research Review, 12*(1), 151-156.

(46) Burton, C., McGorm, K., Weller, D., & Sharpe, M. (2011). Depression and anxiety in patients repeatedly referred to secondary care with medically unexplained symptoms: a case-control study *Psychological Medicine, 41*, 555-563.

(47) Druss, B. G. (2011). Mental disorders medical comorbidity findings Princeton: Rober Wood Johnson Foundation.

(48) Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Abdel Khalek, S., Abdelalim, A. A., Zwalinski, L. (2013). Measurement of jet shapes in top-quark pair events at [Formula: see text] using the ATLAS detector. Eur Phys J C Part Fields, 73(12), 2676. doi: 10.1140/epjc/s10052-013-2676-3

(49) O'Neil, A., Williams, E. D., Stevenson, C. E., Oldenburg, B., & Sanderson, K. (2012). Co-morbid depression is associated with poor work outcomes in persons with cardiovascular disease (CVD): a large, nationally representative survey in the Australian population. [Research Support, Non-U S Gov't]. BMC Public Health, 12(47), 1471-2458.

(50) Churcher, L., Chan, C. H., & Badley, E. M. (2013). Chronic back problems and labor force participation in a national population survey. *BMC Public Health*, 13(326).

conditions.[51] Similarly an association between the presence of co-morbid depression and physical long-term health conditions almost doubled the likelihood of healthcare utilisation, but also increased functional disability compared to the presence of a physical long-term health conditions without co-morbid depression.[52] Of real concern, a review of the literature in 2008 suggested that the presence of depression increased the risk of all-cause mortality by about 70%.[53]

3.4.2 Healthcare costs of comorbidity

A review of the international literature concluded that **co-morbid mental health problems increase healthcare costs** by at least 45% for each person with a long-term physical health condition.[54] It is estimated that between 12% and 18% of annual NHS expenditure on physical long-term health conditions is linked to poor mental health – i.e. £8-13 billion (around £1 in every £8 spent on long-term health conditions).[55]

A British study on 86,100 patients from the General Practice Research Database compared primary care costs of treating people with comorbidity as opposed to one condition alone. Three categories of comorbidity were identified - those that are: *cost-increasing*, mainly due to a combination of depression with physical comorbidity; *cost-limiting* because treatment for the conditions overlap (e.g. hypertension when occurring with cardiovascular conditions); and *cost-limiting* for no apparent reason but possibly because of inadequate care. Depression was found to be the most important *cost-increasing* condition when co-occurring with other conditions.[56] Further, in the UK, comorbid depression is associated with a 50% to 75% increase in health spending among diabetes patients[57] who experience more hospital admissions and GP consultations for physical complaints than those without a mental illness comorbidity.[58] Similar results have been found in the US.[59]

A study of US healthcare costs demonstrated the substantial added costs of comorbid common mental health conditions on physical long-term health conditions, including arthritis, chronic pain and cancer. After identifying an average monthly healthcare cost of $270, the study identified that comorbid depression increased healthcare costs to $411-721 per patient per month (average $505), while anxiety added $513-1015 (average $651).[60] It is worth noting that studies of this nature often focus only on the healthcare costs for the physical health condition, and not for mental health treatment, implying that the actual total costs are even greater.

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(51) Druss, B. G., Hwang, I., Petukhova, M., Sampson, N. A., Wang, P. S., & Kessler, R. C. (2009). Impairment in role functioning in mental and chronic medical disorders in the United States: results from the National Comorbidity Survey Replication. *Molecular Psychiatry*, 14(7), 728-737.

(52) Murray, C. J. L., & Lopez, A. D. (1996). *In the global burden of disease: a comprehensive assessment of mortality and disability from disease, injuries, and risk factors in 1990 and projected to 2020*. Cambridge: Harvard University Press on behalf of the World Health Organization and the World Bank.

(53) Eaton, W. W., Martins, S. S., Nestadt, G., Bienvenu, O. J., Clarke, D., & Alexandre, P. (2008). *The burden of mental disorders.Epidemiologic Reviews*, 30(1), 1-14. DOI: 10.1093/epirev/mxn011

(54) Naylor, C., Parsonage, M., McDaid, D., Knapp, M., Fossey, M., & Galea, A. (2012). Long term conditions and mental health. The cost of co-morbidities London: The King's Fund- Centre for Mental Health.

(55) Naylor, C., Parsonage, M., McDaid, D., Knapp, M., Fossey, M., & Galea, A. (2012). Long term conditions and mental health. The cost of co-morbidities London: The King's Fund- Centre for Mental Health.

(56) Brilleman, S. L., Purdy, S., Salisbury, C., Windmeijer, F., Gravelle, H., & Hollinghurst, S. (2013). Implications of comorbidity for primary care costs in the UK: a retrospective observational study. *British Journal of General Practice*.

(57) Simon, G. E., Katon, W. J., Lin, E. H., Ludman, E., VonKorff, M., Ciechanowski, P., & Young, B. A. (2005). Diabetes complications and depression as predictors of health service costs. *Gen Hosp Psychiatry*, 27(5), 344-351.

(58) Das-Munshi, J., Stewart, R., Ismail, K., Bebbington, P. E., Jenkins, R., & Prince, M. J. (2007). Diabetes, common mental disorders, and disability: Findings from the UK National Psychiatric Morbidity Survey. *Psychosomatic Medicine*, 69(6), 543-550.

(59) Unützer, J., Schoenbaum, M., Katon, W. J., Fa, M. Y., Pincus, H., Hogan, D., & Taylor, J. (2009). Healthcare costs associated with depression in medically ill fee-for-service medicare participants. *Journal of the American Geriatric Society, 57*(3), 506-510.

(60) Melek, S., & Norris, D. (2008). *Chronic Conditions and Comorbid Psychological Disorders.* Seattle.

Summary - comorbidities and employment

The analysis highlighted that having multiple long-term health conditions is common, experienced by 1 in 7 of the working age population (around 5 million individuals), and 1 in 10 of current employees. This clearly has an adverse effect on employment - those with comorbidities are less likely to be working, or indeed in the labour market; as well as on the nature of the jobs those affected are likely to do. This is further reflected in lower levels of self-reported wellbeing for those with multiple long-term health conditions (and particularly where this included mental health conditions), and higher reported levels of impairment.

The effect of having multiple conditions appeared to be influenced by the individual's age and gender – with worse employment outcomes found in oldest age groups, and very little if any difference in the youngest age group (though education participation did vary by number of conditions in the youngest group). Concerns around job security were greater among those with comorbidities in general, regardless of age. Younger women appeared more likely than younger men to have multiple long-term health conditions, which might influence employment outcomes.

The experience of different symptoms or functional impairments was a strong predictor of employment and there was a clear negative additive effect on employment rates of having more than one long-term health condition. There was also a greater negative additive effect for those who experienced a mental health condition as one of their conditions – seen in employment rates, in wellbeing scores and in perceptions of job security.

Key findings include:

- 14% of working age (16-64) respondents had two or more long-term health conditions- that is 1 in 7, equivalent to about 5 million people in England alone
- Over two-thirds of all working age people who have multiple LTCs, are aged 45 and older
- Almost a third (31%) reported having a mental health condition concurrent with a physical condition
- The employment rate decreases with the number of health conditions experienced, while the proportion retired or economically inactive increases
- While just over half (55%) of all those with multiple long-term health conditions were in work, just a third (33%) of those whose comorbidity included at least one mental health condition were working.
- Young people (16-24) with multiple conditions were less likely to be in full-time education than their peers with one or no conditions.
- Respondents with multiple LTCs were more than twice as likely to report their daily activity was limited 'a lot' (36%) compared to individuals with one LTC (16%). For those with a comorbidity that included a mental health condition, this rose to 56%
- Certain types of functional impairment were associated with particularly low levels of employment. However those who reported no functional impairment associated with their comorbid long-term health conditions were only slightly less likely to be in work than the population with no long-term health condition. Employment rates decreased as number of different types of impairment increased – to an even greater extent than seen for number of conditions.
- Those with comorbidity were less likely to be employed in managerial and professional roles and more likely to be employed in routine manual positions compared to those with one or no health condition. They were also more likely to be working part-time, and to work for a smaller business.
- Job security concerns were greater among those with comorbidities regardless of age.

4. Comorbidities and employment: the evidence

The first two sections of this chapter consider evidence from the literature relating to the effect of long-term health conditions on working. The third section then offers a secondary analysis of the 2013 Health Survey for England to examine employment outcomes.

4.1 Labour force participation rate

National surveys, for example the UK Labour Force Survey[61], clearly demonstrate that people with long-term health conditions are less likely to be in employment than those without such conditions. At the end of 2014, while the UK employment rate was 73.5%, the rate for those reporting a long-term health condition was 59.6%, and for those reporting a mental illness as the main condition it was 42.7%.[62]

The evidence indicates that for those with multiple long-term health conditions, particularly where there are both mental and physical health conditions, there is a detrimental effect on employment outcomes - in terms of absence, productivity and in terms of being employed. A 2008 study identified a negative association between comorbid physical and mental health conditions and employment status.[63] These initial findings were built on in a 2011 analysis of the Australian Bureau of Statistics data from the Survey of Disability, Ageing and Carers (a sample of 36,000 individuals) which found comorbidity among people with psychiatric disorders was negatively associated with labour force activity. Further, the research identified that the extent of comorbidity (i.e. the number of conditions) was relevant, as was the nature of the conditions – with employment rate being 8.3% for those who had both psychiatric and intellectual disabilities, 42% for those with psychiatric plus physical or neurological disabilities, and 52% for those with psychiatric plus sensory disabilities.[64] Research in Canada, conducted with the objective of examining the association between disability type and unemployment, found that the rate of unemployment was 35.4% for those with co-morbid mental disability as opposed to 18.5% for those with only physical disabilities.[65]

A number of studies have also looked at specific conditions or combination of conditions and explored their effect on labour market outcomes. For example, an Australian study found that individuals who reported both back problems and arthritis, were more likely to be out of the labour force than those who reported having just one or the other, and were at a higher risk of being permanently unable to work.66 Heart disease and depression are the leading causes of non-work participation in developed countries, but a study in 2012 estimated that when

(61) Office for National Statistics, Employment and Labour Market http://www.ons.gov.uk/employmentandlabourmarket
(62) Gifford, G. (2015). Labour Force Survey analysis of disabled people by region and main health problem. London: Department for Work and Pensions.
(63) Waghorn, G., Lloyd, C., Abraham, B., Silvester, D., & Chant, D. (2008). Comorbid Physical Health Conditions Hinder Employment among People with Psychiatric Disabilities. *Psychiatric Rehabilitation Journal, 31*(3), 243-246.
(64) Waghorn, G., Chant, D., & Jonsdottir, A. (2011). Comorbidity and labor force activity among people with psychiatric disorders. J*ournal of Occupational and Environmental Medicine,* 53(1), 68-73.
(65)Lillie, E., Alvarado, B. E., & Stuart, H. (2013). Unemployment among Canadians with physical and a co-morbid mental disability: an examination of the 2006 Participation and Activity Limitation Survey (PALS). *Disabil Health J, 6*(4), 352-360.
(66) Churcher, L., Chan, C. H., & Badley, E. M. (2013). Chronic back problems and labor force participation in a national population survey. *BMC Public Health*, 13(326).

co-morbid they roughly double the risk of not working compared to having one condition alone.[67] Some disorder combinations, such as substance dependence with psychotic disorders; or major depressive disorder and musculoskeletal disorders, have a greater negative impact on labour force participation.[68] Those with comorbid cardiovascular disease and major depressive disorder were least likely to report workforce participation[69]. This study reflects other findings.

It is not only the nature of comorbidities, but also the number of comorbidities that has been identified as increasing employment restrictions and the chance of being out of work.[70] The risk is further increased with age. Analysis of the Australian Bureau of Statistics 2003 Survey of Disability, Ageing and Carers for people aged 45–64 years, showed a considerable increase in the odds ratio for this age group being out of the labour market, increasing with number of long-term health conditions. Older workers with 2 or more long-term health conditions were 42% more likely to be out of the labour force than those with 1 long-term health condition, and those with 3 or more long-term health conditions, were 240% - nearly 2.5 times - more likely to be out of the labour force.[71]

Poor health can hinder employability due to the limited capacity to work that results from some long-term health conditions; this is exacerbated when physical and mental conditions are combined. A study based on the British Household Panel Survey data from 1992 to 2002 found that both self-assessed health and the General Health Questionnaire index to measure psychological wellbeing are robust determinants for entry into and exits out of employment.[72] Similarly, a 2014 study estimated the multiplicative effect of physical and mental health conditions on propensity to work.[73] This suggests a possible causal effect between co-morbid conditions and economic exclusion.[74] The extent to which economic exclusion is caused by the co-morbid conditions or by other factors however is not clear. There is some data to suggest that there may be other factors that influence employment rather than the medical condition itself. Evidence from the "Understanding the journeys from work to Employment and Support Allowance (ESA)" survey[75] found that 11% of ESA claimants with one long-term health condition had felt pressurised to leave their job, however this rose to between 22 and 25% of those with multiple long-term health conditions. Having interviewed 3,000 claimants about their journey from employment to claiming ESA, they also found that only 5% of respondents with more than one long-term health conditions were in paid work, compared to 11% of people with one long-term health condition, suggesting a correlation between comorbidity and the likelihood of not being in paid employment.

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(67) O'Neil, A., Williams, E. D., Stevenson, C. E., Oldenburg, B., & Sanderson, K. (2012a). Co-morbid depression is associated with poor work outcomes in persons with cardiovascular disease (CVD): a large, nationally representative survey in the Australian population. *BMC Public Health, 12*, 47.

(68) Waghorn, G., Chant, D., & Jonsdottir, A. (2011). Comorbidity and labor force activity among people with psychiatric disorders. *Journal of Occupational and Environmental Medicine, 53*(1), 68-73.

(69) O'Neil, A., Williams, E. D., Stevenson, C. E., Oldenburg, B., & Sanderson, K. (2012). Co-morbid depression is associated with poor work outcomes in persons with cardiovascular disease (CVD): a large, nationally representative survey in the Australian population. *BMC Public Health*, 12, 47.

(70) Waghorn, G., Chant, D., & Jonsdottir, A. (2011). Comorbidity and labor force activity among people with psychiatric disorders. *Journal of Occupational and Environmental Medicine, 53*(1), 68-73.

(71) Schofield, D. J., Shrestha, R. N., Passey, M. E., Earnest, A., & Fletcher, S. L. (2008). Chronic disease and labour force participation among older Australians. [Research Support, Non-U.S. Gov't]. *Med J Aust, 189*(8), 447-450.

(72) Garcia-Gomez, P., Jones, A., & Rice, N. (2010). Health effects on labour market exits and entries. *Labour Economics*, 17(1), 62-76.

(73) Pacheco, G., Page, D., & Webber, D. J. (2014). Mental and physical health: re-assessing the relationship with employment propensity. *Work, Employment & Society, 28*(3), 407-429.

(74) Pacheco, G., Page, D., & Webber, D. J. (2014). Mental and physical health: re-assessing the relationship with employment propensity. *Work, Employment & Society, 28*(3), 407-429.

(75) Department of Work and Pensions (2015) Understanding the journeys from work to Employment and Support Allowance (ESA) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/436420/rr902-understanding-journeys-from-work-to-esa.pdf

4.2 Long-term health conditions and work

Having multiple health conditions is linked to increased absenteeism, presenteeism, work impairment, and a reduced likelihood of returning to work – particularly with co-morbid mental and physical long-term health conditions. Unfortunately, many data sources only provide information on a single or main long-term health condition, although recent years have seen an increase of data on the prevalence of multiple long-term health conditions among the working age population – leading to a growing evidence base on the relationship between comorbidity and employment. Recent UK employee surveys commissioned by the Department for Work and Pensions (DWP) give some indication of the prevalence of comorbidity in working age and employed populations. The 2014 "Health and wellbeing at work: a survey of employees"76 interviewed more than 2,000 randomly-selected employees aged 16 and over across England, Wales and Scotland. They found that 8% of current employees had multiple mental health conditions, 19% multiple physical conditions and 4% had a mix of mental and physical conditions. People with both mental and physical long-term health conditions, were more likely to see their health as affecting their ability to work. In the employee survey, 29% of employees with mental and physical comorbidities reported that their health affected their work 'a great deal' compared to 16% of people with any condition (including a single long-term health condition), 13% of those with only physical conditions and 15% of those with only mental health conditions.[77] This is similar to other larger surveys - data from the 2007 Australian National Survey of Mental Health and Wellbeing[78] was analysed to demonstrate the impact on work functioning[79] of having major depressive disorder or cardiovascular disease or experiencing them comorbid. Of the four reference groups (major depressive disorder only, cardiovascular disease only, major depressive disorder and cardiovascular disease comorbid and "healthy") those with comorbid major depressive disorder and cardiovascular disease reported greatest likelihood of workplace absenteeism and were 8 times as likely to experience impairments in work functioning compared with the 'healthy' group.[80]

The relationship between absence and physical and mental health has been identified in the DWP employee survey which found that having physical and mental health conditions was independently associated with having a longer period of sickness absence lasting two or more weeks.[81] A Dutch survey of health and work found that having chronic back troubles, rheumatism, migraine, or mood disorders had the greatest association with frequent absence from work, but when a combination of mental and physical conditions was experienced the number of working days missed increased.[82]

An analysis of the cross-sectional data set from the Australian Work Outcomes Research Cost-benefit (WORC), a sample of 78,000 working Australians, explored the impacts of health conditions with and without co-morbid psychological distress, compared to those with neither condition. It found a greater risk of productivity loss - both in terms of absenteeism and presenteeism - for those with physical and mental health comorbidity. This was more marked in certain conditions – for example, a person with arthritis had a 40% higher risk of absenteeism than someone with no health conditions, however, someone with arthritis and psychological

(76) Steadman, K., Wood, M., & Silvester, H. (2015). Health and wellbeing at work: a survey of employees, 2014. London: Department for Work and Pensions.
(77) Steadman, K., Wood, M., & Silvester, H. (2015). Health and wellbeing at work: a survey of employees, 2014. London: Department for Work and Pensions.
(78) Sample size = 8,841
(79) Using a WHO Disability Assessment Schedule item.
(80) O'Neil, A., Williams, E. D., Stevenson, C. E., Oldenburg, B., & Sanderson, K. (2012a). Co-morbid depression is associated with poor work outcomes in persons with cardiovascular disease (CVD): a large, nationally representative survey in the Australian population. *BMC Public Health, 12*, 47.
(81) Steadman, K., Wood, M., & Silvester, H. (2015). Health and wellbeing at work: a survey of employees, 2014. London: Department for Work and Pensions.
(82) Brennan Braden, J., Zhang, L., Zimmerman, F. J., & Sullivan, M. (2008). Employment outcomes of persons with a mental disorder and comorbid cgronic pain *Psychiatric Services, 59*(8).

distress had a 124% higher risk of absenteeism. Other combinations which had a high risk of absenteeism when combined with psychological distress were chronic obstructive pulmonary disease (180%), workplace injury (166%), cancer (136%), drug and alcohol problems (124%), cardiovascular disease (114%), back/neck pain (102%) and fatigue/sleep problems (108%).[83] As regards presenteeism – attending work while sick – a number of conditions, including arthritis, cancers, cardiovascular disease, high blood pressure, and high cholesterol only increased the risk of presenteeism when they were comorbid with psychological distress.[84] Again we see additional negative impact of comorbid mental health problems.

Such findings around absenteeism and mental health comorbidity are reflected in other large scale studies – for example, a 2015 study which examined sickness absence and return to work among 10,000 Finnish public sector employees who had depression-related sickness absence. Those employees that experienced another mental or physical health condition as well as having depression, had a 19%-52% higher likelihood of not returning to work after absence, compared to those who experienced depression without a comorbid condition.[85]

When exploring the effect of comorbidity on employment it is not simple to identify what illness represents the primary obstacle to work and which one has a secondary additional effect. For this reason, it can be helpful to have a universal scale to rank and compare various conditions. This approach becomes even more challenging when there are comorbidities of different kinds, i.e. in the mental and physical realms. It is likely that the effects of comorbidity vary according to the combination of conditions and this may not always be linear or additive.[86]

National surveys demonstrate that people with two or more long-term health conditions are less likely to be in employment. Co-morbid mental health disorders appear to have a further negative effect on work participation, absenteeism and presentism.

4.3 Employment outcomes: secondary analysis of the 2013 Health Survey for England

This section presents evidence from secondary analysis of 2013 Health Survey for England (HSE) data to explore employment outcomes among the working age people with two or more long-term health conditions.

4.3.1 Method and sample[87]

The analysis focused on the working age population, defined in this context as those aged 16-64[88], with an overall sample size of 6,558. This sample was segmented into three groups, based on their response to the HSE 2013 question: *Do you have any physical or mental health*

(83) Holden, L., Scuffham, P. A., Hilton, M. F., Ware, R. S., Vecchio, N., & Whiteford, H. A. (2011). Health-related productivity losses increase when the health condition is co-morbid with psychological distress: findings from a large cross-sectional sample of working Australians. *BMC Public Health, 11*, 417. doi: 10.1186/1471-2458-11-417

(84) Holden, L., Scuffham, P. A., Hilton, M. F., Ware, R. S., Vecchio, N., & Whiteford, H. A. (2011). Health-related productivity losses increase when the health condition is co-morbid with psychological distress: findings from a large cross-sectional sample of working Australians. *BMC Public Health, 11*, 417. doi: 10.1186/1471-2458-11-417

(85) Ervasti, J., Vahtera, J., Pentti, J., Oksanen, T., Ahola, K., Kivekas, T., . . . Virtanen, M. (2015). Return to work after depression-related absence by employees with and without other health conditions: a cohort study. [Research Support, Non-U.S. Gov't]. *Psychosom Med, 77*(2), 126-135. doi: 10.1097/PSY.0000000000000138

(86) Prados-Torres, A., Calderon-Larranaga, A., Hancco-Saavedra, J., Poblador-Plou, B., & van den Akker, M. (2014). Multimorbidity patterns: a systematic review. [Review]. *J Clin Epidemiol, 67*(3), 254-266. doi: 10.1016/j.jclinepi.2013.09.021

(87) **A note on weighting**: Statistical weighting is used in published reports of the HSE results to take account of possible bias when generalising from the data about the whole population of England. However, in this secondary analysis we decided not to apply statistical weighting because the analysis is aimed at understanding the nature of variations within the sample, rather than presenting estimates for the whole sample (as is the case with the HSE reports).

(88) English retirement age at the time was 65 for both men and women

conditions or illnesses lasting or expected to last 12 months or more? The groups were those who reported having:

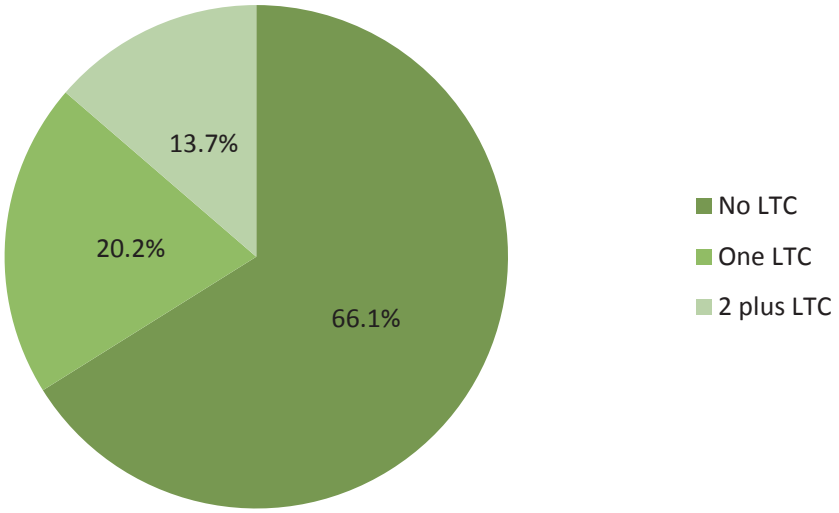
- no such conditions
- one such condition (sample size=1,312)
- more than one such condition (comorbidity or multiple long-term health conditions - sample size=897).

Descriptive analysis comparing those with multiple long-term health conditions, to those with one long-term health condition, and to those with no long-term health condition allowed identification of characteristics which had a statistically significant relationship with work outcomes.

4.3.2 Prevalence of comorbidities in the working age population

The HSE allowed the recording of up to six long-term conditions for each respondent, defined as health conditions that had been present for 12 months or longer. As shown in Figure 2, 34% of working age respondents had at least one long-term condition, and 14% reported having two or more long-term conditions, including five per cent who reported having three or more long-term conditions. Less than half of those with two or more long-term conditions (48%) were working; the employment rate for men with long-term conditions is 50% and for women is 47%.

Figure 2: Presence of long-term conditions (LTCs) and comorbidity in adults aged under 65



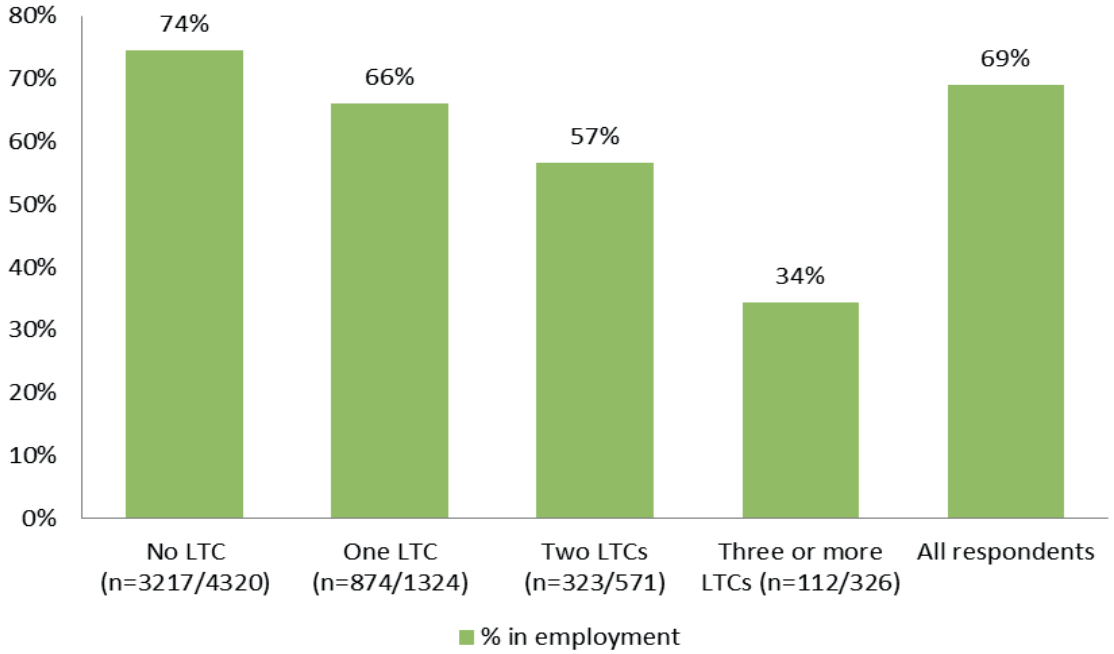
Note: all HSE 2013 respondents aged 16-64 (sample size=6558)

Over 69% of the 897 working age respondents with two or more long-term conditions reported physical health conditions only (physical comorbidity). 31% reported having a mental health condition concurrent with a physical condition. Few respondents with multiple long-term conditions reported mental health conditions only and analysis of the characteristics of this group was not feasible within the remit of this study.

4.3.3 Work and worklessness

In terms of economic activity reported by respondents, there is a pattern of poorer outcomes for those with one long-term condition, worsening for those with multiple conditions. As shown in Figure 3, the likelihood of being in work was lower for those with any long-term condition than for those without a long-term condition, and decreased in line with the number of comorbidities reported: those with the most long-term conditions being the least likely to be in paid work.

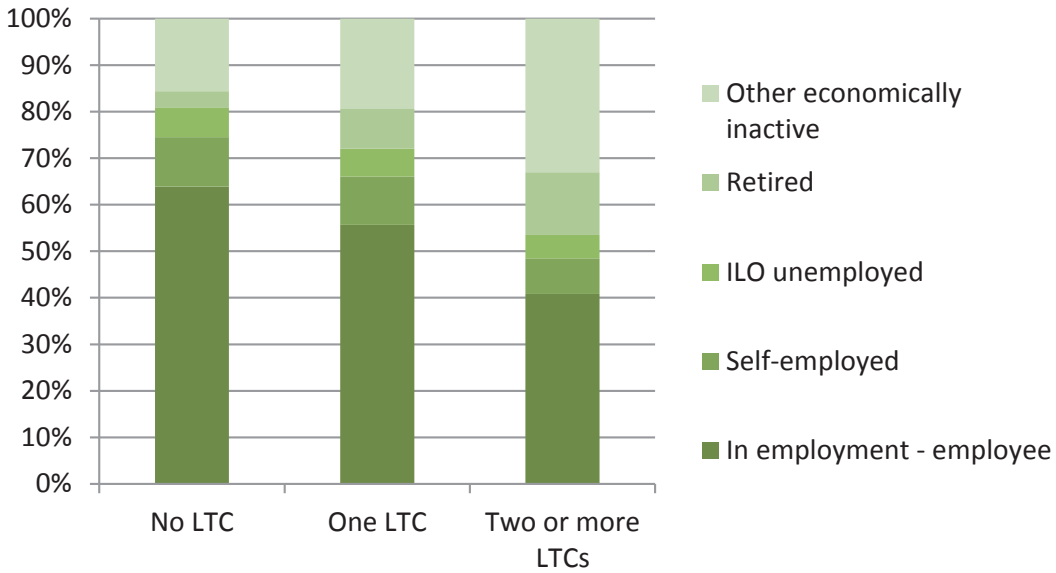
Figure 3: Employment rates in respondents with long-term conditions (LTCs) and comorbidity (including self-employed)



Base: all working age respondents (n=6541)

Analysis found 2,015 (31%) of working age respondents in HSE 2013 were not in paid work i.e. they were ILO unemployed[89], retired or otherwise economically inactive[90]. Figure shows the presence of long-term health conditions and comorbidity in these groups compared to those who were in paid work.

Figure 4: Employment status by number of long-term health conditions (LTCs)



(89) International Labour Organisation (ILO) definition of "unemployed people as those without a job who have been actively seeking work in the past 4 weeks and are available to start work in the next 2 weeks. It also includes those who are out of work but have found a job and are waiting to start it in the next 2 weeks."
(90) http://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity

HSE respondents were asked what they were doing, in terms of 'economic activity', in the previous week ("Economic activity reported for previous seven days"). Unemployed respondents with a single long-term health condition were more likely to report that they were *'Intending to look for work but prevented by temporary sickness or injury'* than those with no long-term health conditions. Those with multiple long-term health conditions were significantly more likely to report this than those with a single long-term health condition. A similar pattern of poorer outcomes in those with one long-term health condition and worsening for those with multiple and comorbidities, was seen in other 'not in work' categories; those with multiple long-term health conditions were the most likely to report being *'permanently unable to work because of long-term sickness or disability'*, were more likely to be *'retired'* and less likely to be in *'full time education'*.

Overall, 21% of 16-64 year olds with multiple long-term health conditions reported being permanently unable to work because of long-term sickness or disability, while 14% had retired from the workforce. There were, however, some significant variations within different age groups in each category of economic activity, which warrant interpretation. These are explored more fully later in this chapter in the section discussing gender and age.

Table 2 shows that individuals with multiple long-term health conditions were more likely to be in receipt of government welfare payments - including Income Support[91], Employment Support Allowance (ESA)[92], and Jobseekers Allowance[93] (JSA) - compared to those with one long-term health condition. Those with one long-term health condition were in turn more likely to be in receipt of payments than those with no long-term health conditions. These differences were statistically significant ($p<0.001$). In contrast, those with multiple long-term health conditions were the least likely to be receiving Working Tax Credit[94], though this difference was not statistically significant.

Table 2: Respondents with/without long-term health conditions in receipt of benefits

Benefit received	No long-term condition	One long-term condition	Two or more long-term conditions
Job Seekers Allowance	3%	4%	5%
Employment and Support Allowance	1%	5%	12%
Income Support	3%	5%	9%
Working Tax Credit	10%	9%	8%

4.3.4 Wellbeing and functional impairment

Respondents with multiple long-term health conditions more frequently reported poor overall health and wellbeing, and reduced ability to carry out day-to-day tasks, including work.

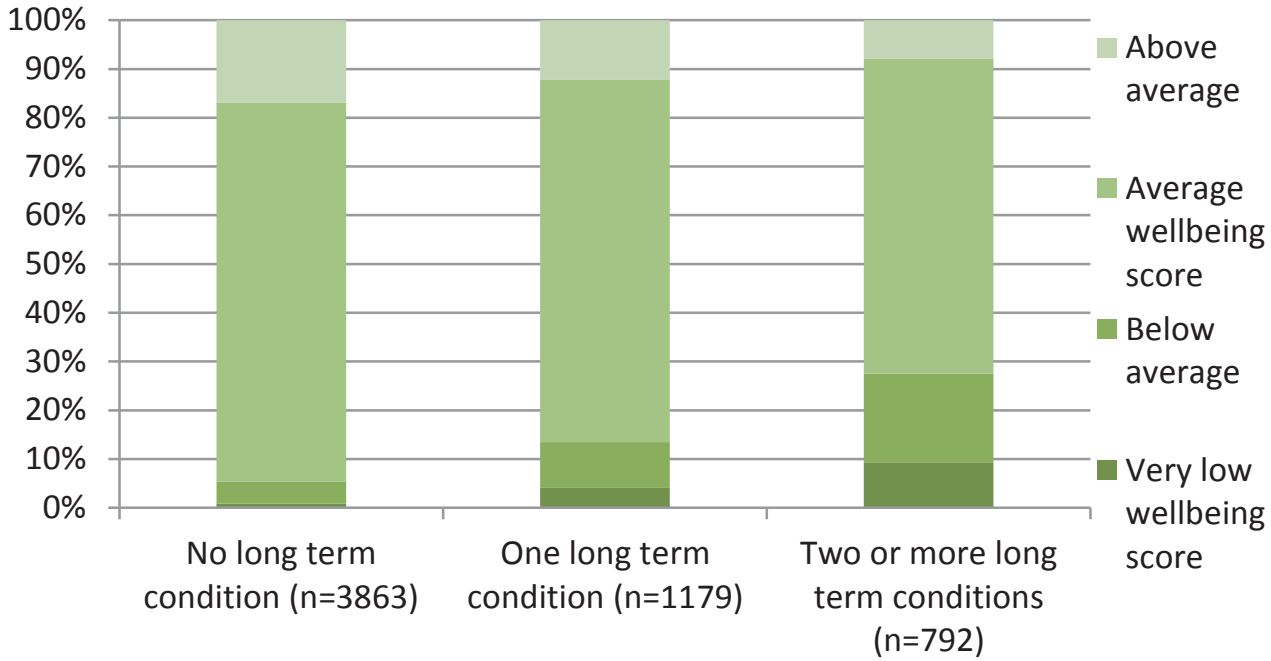
Wellbeing

As shown in Figure 5, individuals with multiple long-term health conditions were significantly more likely to report very low, or below average, wellbeing[95] (9% and 18% respectively), compared

(91) https://www.gov.uk/income-support/overview
(92) https://www.gov.uk/employment-support-allowance/overview
(93) https://www.gov.uk/jobseekers-allowance/overview
(94) https://www.gov.uk/working-tax-credit/overview
(95) Measured using the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS). Available here: http://www.nhs.uk/Tools/Documents/Wellbeing%20self-assessment.htm

to those with one long-term health conditions (4% and 9% respectively), and those with no long-term health conditions (1% and 5% respectively).

Figure 5: Wellbeing scores (WEMWBS) and comorbidity



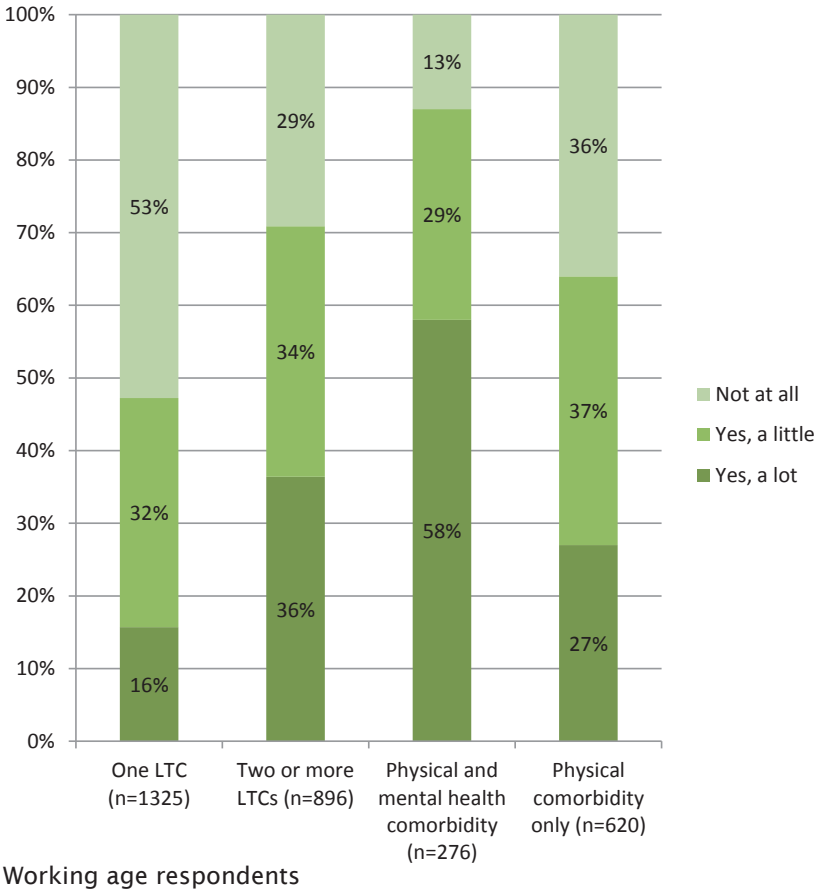
Functional impairment

HSE 2013 respondents, who reported having at least one long-term health condition, were asked if they experienced any of nine impairments in association with those conditions[96]. Respondents with multiple long-term health conditions were more likely to report they experienced impairments than those with just one long-term health condition.

Respondents with long-term health conditions were also asked about the extent (in days) to which their condition had led to a reduction in their regular activities (at work, school or in the home) in the previous two weeks. On average, those with multiple long-term health conditions had cut back on their normal activities for one extra day compared to those with one long-term health condition (8.92 compared to 7.98 days). Similarly, as shown in Figure 6, when respondents with long-term health conditions were asked whether any of their conditions reduced their ability to carry out day-to-day activities, respondents with multiple long-term health conditions were more than twice as likely to report their daily activity was limited 'a lot' (36%) compared to individuals with one long-term health condition (16%). Those with comorbidity that included a mental health condition were more likely to report being limited 'a lot' in daily activities, compared to those with only physical conditions.

Interpretation of the national scores can be found at: http://www2.warwick.ac.uk/fac/med/research/platform/wemwbs/researchers/interpretations/
See also: http://bmjopen.bmj.com/content/4/9/e005878.full
(96) Impairment categories for question – 'Do any of your conditions or illnesses affect you in any of the following areas?' **Vision** (for example blindness or partial sight); **Hearing** (for example deafness or partial hearing); **Mobility** (for example walking short distances or climbing stairs): **Dexterity** (for example lifting and carrying objects, using a keyboard); **Learning or understanding or concentrating**; Memory; Mental health; Stamina or breathing or fatigue; **Socially or behaviourally** (for example associated with autism, attention deficit disorder or Asperger's syndrome); **Other**.

Figure 6: The extent to which long-term health conditions (LTCs) limit daily activity in HSE 2013 working age respondents



Base: HSE 2013 Working age respondents

A sixth (17%) of individuals with two or more long-term health conditions, who reported being limited 'a lot' in their daily activities, were in work. This compared to 32% of those with one long-term health condition who similarly reported being limited 'a lot'. This infers that where there are functional implications of poor health, this is compounded by having multiple health conditions when looking at likelihood of employment. This is further illustrated when looking at the relationship between different types of functional impairment, number of long-term health conditions, and employment. As shown in Figure 7 below, the employment rate for those with multiple long-term health conditions who report no associated impairments (73%) is just 1% lower than the rate in those with no health condition (74%). However, the impact on employment varied considerably when looking at different types of functional impairment, and with having one or multiple long-term health conditions. The patterns of employment rate by type of impairment were similar regardless of whether an individual had one or more conditions. However, the employment rates were much lower for those with multiple conditions, than for those with one condition.

Figure 7: Relative percentages of those with specific impairments in employment

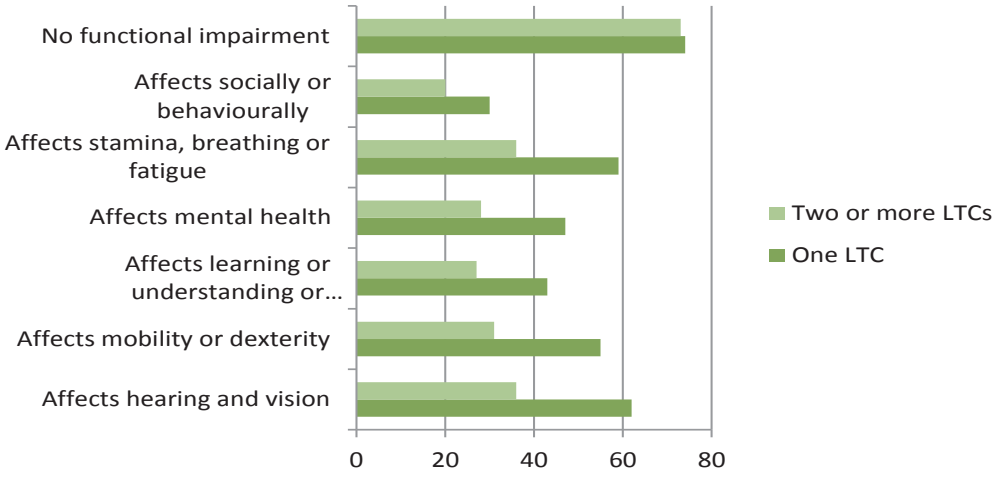
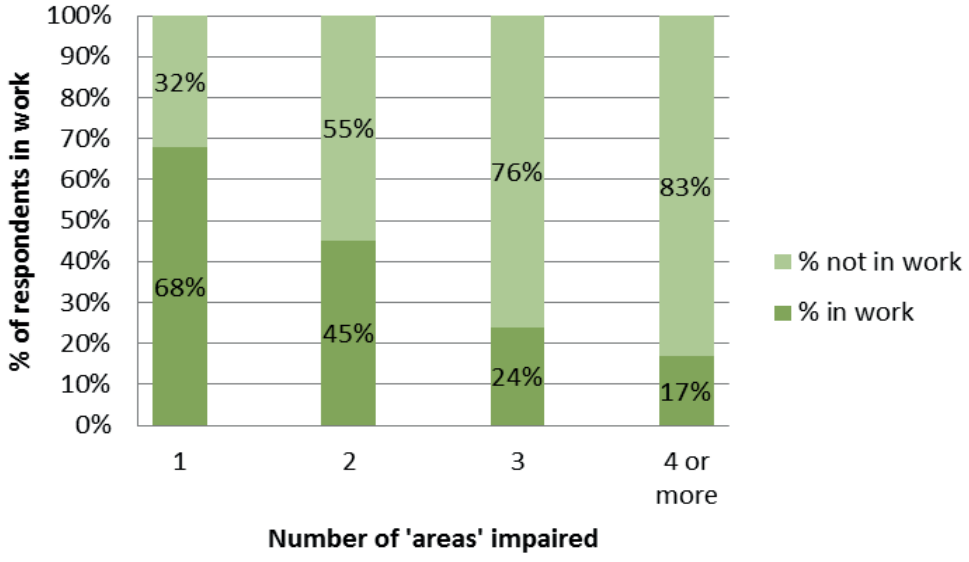


Figure 7 shows that certain types of functional impairment are associated with particularly low rates of employment in people with long-term health conditions. Having a social or behavioural impairment was associated with the lowest employment rates regardless of whether someone has one (30%) or multiple (20%) conditions, followed by conditions that effect 'learning, understanding, concentration or memory' or 'mental health'. On the other end of the scale, conditions that affect hearing and vision, and conditions that affect stamina, breathing and fatigue had the least negative effect on employment rates; though even in these groups the difference between having one long-term health condition and having multiple long-term health conditions on the employment rate was considerable – differing by 27 and 23 percentage points respectively.

The number of areas of functional impairment was also found to influence the likelihood of employment for people with multiple health conditions. As seen in Figure , the more areas of impairment someone experiences, the less likely it was they would be in work. Indeed, the impact on employment appears greater by number of impairments, than number of conditions (see Figure 3).

Figure 8: Number of impairments and their effect on employment rate for people with comorbidities

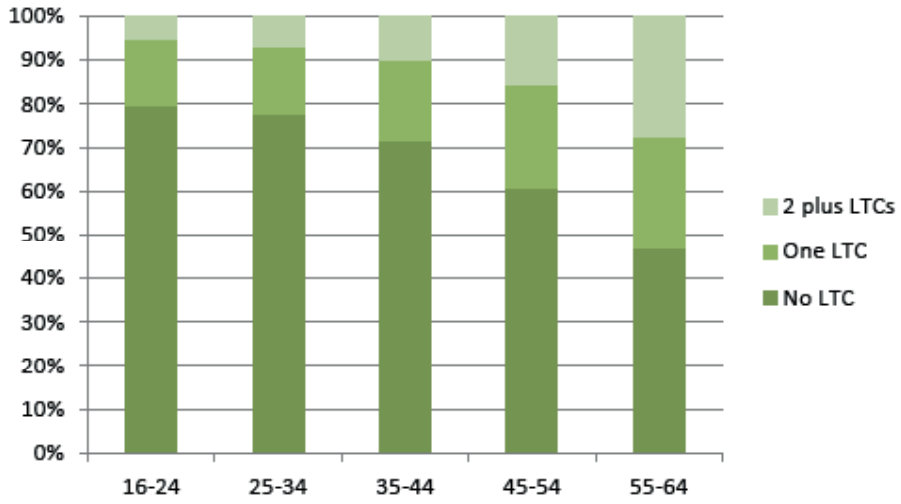


4.3.5 Gender and age

There is a wide range of socio-economic factors which are known to impact on experiences of work, such as ethnicity, culture, education, and social deprivation. These factors will have various interrelationships, and will also have a cumulative effect. In this section, we have limited focus to gender and age and have sought to focus on identifying features that warrant further investigation, rather than seeking to draw definitive conclusions.

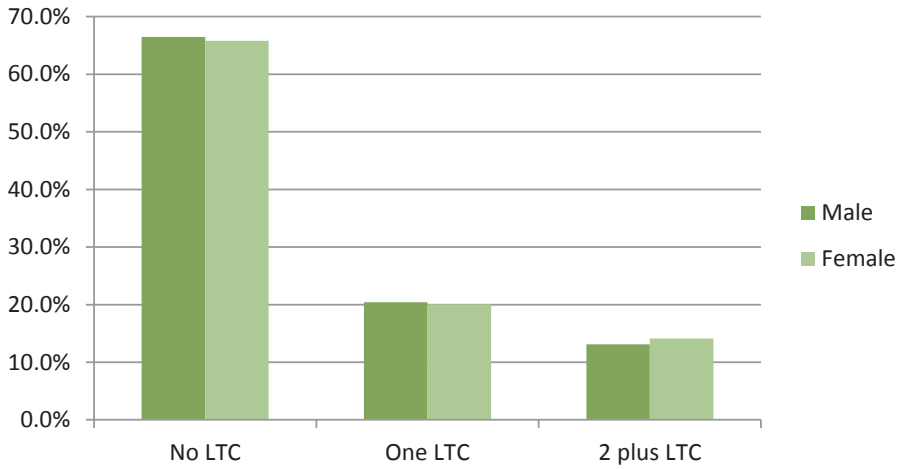
Analysis of HSE 2013 data found the likelihood of having *any* long-term health condition increases with age, and particularly rapidly from the age group of 45-54. As illustrated in Figure 9 the *rate* of increase with age becomes significantly greater in all age groups - comorbidity in those aged 55-64 is more than double that in those aged 35-44. Consequently, over two thirds of working age respondents with multiple long-term health conditions were older than 45. This pattern is not unexpected: there is a known relationship between the onset of many long-term health conditions and ageing, and the presence of comorbidity would be expected to grow in a direct relationship with the onset of a first condition. Additionally, certain conditions lead to increased risk for other specific long-term health conditions.

Figure 9: Long-term conditions (LTCs) in HSE 2013 respondents aged 16-64



Base: all HSE 2013 respondents aged 16-64 (n=6558)

Figure 10 Long-term conditions (LTCs), comorbidity and gender

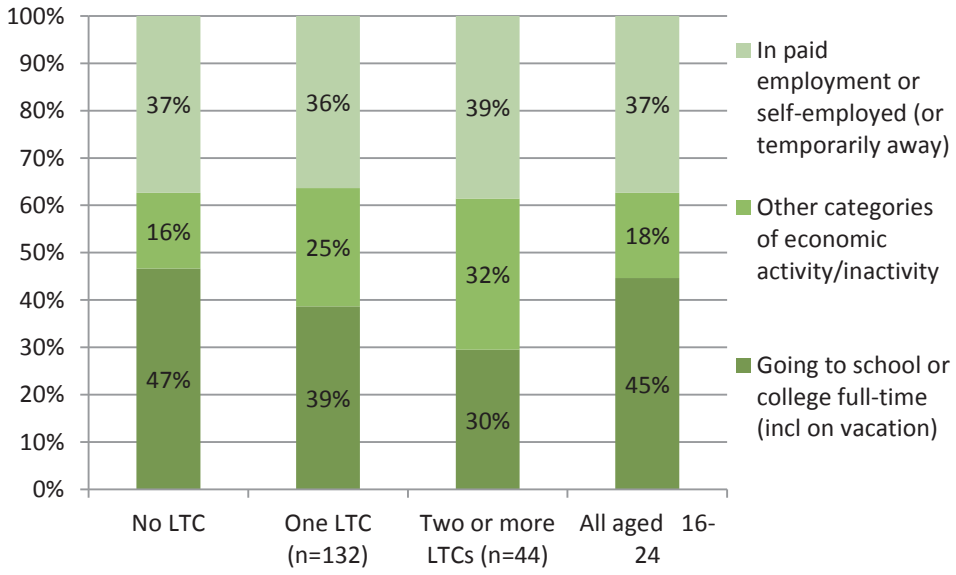


Base:all HSE 2013 respondents age 16-64 (male=2,871; female =3,697)

In terms of gender, there is no statistically significant variation (P<0.05) between working age men and women in terms of prevalence of single or multiple long-term health conditions. However, there was some variation within different age groups. For example, in the youngest working age group (16-24), female respondents were significantly more likely to have a long-term health condition (18% compared to 12% in men); and were also more likely to report having two or more long-term health conditions (7% compared to 3% in men).

Among 16-64 year old respondents, those with a long-term health condition were more likely to be retired, than those without a long-term health condition, and those with multiple conditions were the most likely to be retired. However, as might be expected, this variation was only significant in respondents in the oldest group, aged 55-64. An equivalent pattern was seen at the other end of the age range, in terms of the rate of participation in full time education. As shown in Figure 11, respondents aged 16-24 with any long-term health condition were less likely to be in education than those with none, and participation was significantly lower in those with two or more long-term health conditions (30% compared to 47% of those without a long-term health condition).

Figure 11: Economic activity in young people (16-24) with LTCs



It also shows that survey respondents in the youngest age group (16-24) with two or more long-term health conditions were slightly more likely to be in employment than those without health conditions. As described above, this contrasts with the pattern seen in the whole sample where those with two long-term health conditions were significantly less likely to be in employment, than those with one long-term health condition who in turn were significantly less likely to be in employment than those with no long-term health condition.

Age, gender and other socio-demographic variations within different economic activity groups were explored to help understand the nature of the relationship between long-term health conditions and employment outcomes. There are significant differences between male and female respondents who were economically inactive (other than retired): a third (32%) of economically inactive men had two or more long-term health conditions, compared to 1 in 5 (20%) of economically inactive women. No gender differences were found in the group who were 'ILO unemployed'.

4.3.6 Employment characteristics of working respondents

Of all those in work[97], 71% reported no long-term health conditions, 19% reported one long-term health condition, and 10% reported having two or more long-term health conditions.

(97) Employed and self-employed, sample size = 4,525

Some differences were identified in terms of employment characteristics of those who were working with multiple long-term health conditions compared to those with one or no long-term health condition.

Statistically significant (at the 0.05 level) findings included those respondents with two or more long-term health conditions were:

- More likely to work part time (37% compared to 29% of those with one long-term health condition and 24% of those with no long-term health condition); and the variation was most evident in those aged 25-34 (30% of those with two or more long-term health conditions worked part time in this age group compared to 17% of those with no long-term health condition).
- More likely to undertake shift work, though the difference was only significant in the 25-34 age group; in this group, 63% never undertook shift work compared to 67% of those with one and 73% of those with no long-term health condition.
- More likely to work in routine and manual occupations: 35% compared to 33% of those with one long-term health condition and 30% without a long-term health condition; and less likely to be in managerial or professional occupations (37% compared to 42% of those with one and 44% of those without a long-term health condition), or to be a manager (23% compared to 27% of those with one long-term health condition and 29% of those with no long-term health condition).
- More likely to be self-employed rather than an employee, though the difference was significant only in the 45-54 age group, and related to the comparison with no long-term condition; in this age group 19% were self-employed compared to 21% of those with one long-term health condition and 15% of those with no long-term health condition.
- Those with two or more LTCs were statistically more likely to work in a small organisation with 3 to 24 employees (36% compared to 27% with no LTC), and less likely to work in a larger organisation of 25-499 employees (41% compared to 47% with no LTC) or an in an organisation with over 500 employees (16% compared to 19% of those with no LTC).
- Less likely to work in the public sector: 27% compared to 29% of those with no long-term health condition and 31% of those with one long-term health condition.

The HSE 2013 included questions on job quality. Respondents were asked their level of agreement with the statement: 'My job requires that I work very hard' and 'Do you have a choice in deciding *how* you go about your work?' No significant difference was found in terms of job quality and presence of long-term health conditions. However, our analysis suggests that having multiple long-term health conditions is significantly associated with greater feelings of job insecurity. When respondents were asked to rate the likelihood of losing their job and becoming unemployed in the next 12 months, those with multiple long-term health conditions were, on average, significantly more likely to see their job as more at risk compared to those with one or no health condition.[98]

There are significant differences between respondents with and without multiple long-term health conditions in their perceptions of support received from managers – with people with long-term health conditions less likely to feel supported by managers. However, we would suggest caution in drawing conclusions from this finding as further analysis found this variation could be associated with age, gender, and other socio-demographic features rather than the presence of single or multiple long-term health conditions.

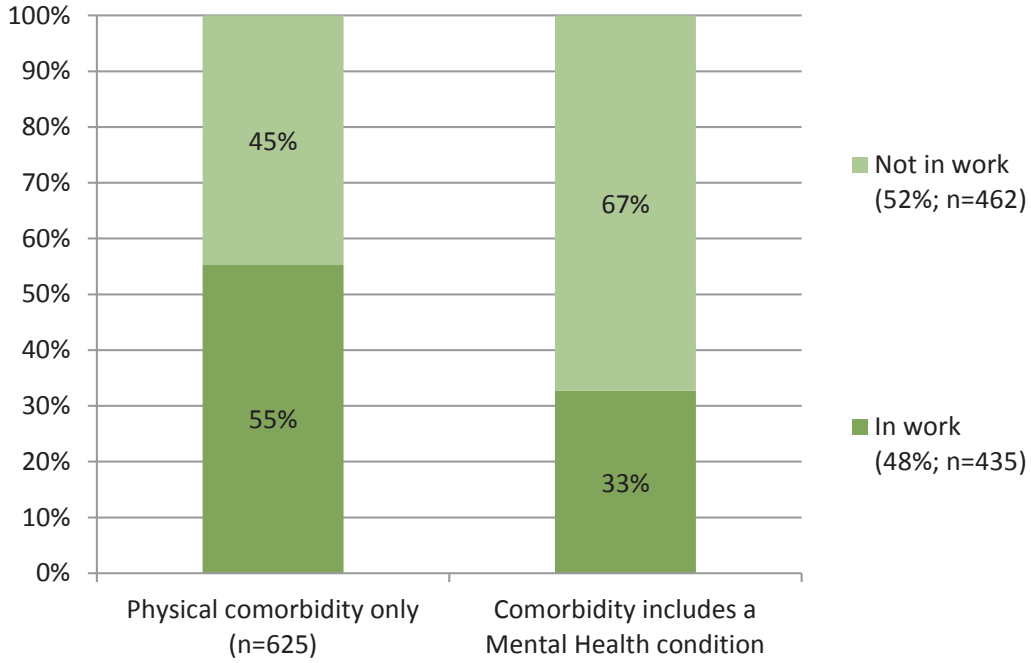
4.3.7 Mental health and employment outcomes

A third (33%) of working age respondents with multiple long-term health conditions that included a mental health condition were in employment, compared to more than half (55%) of

(98) Rated on a scale from 0 to 100. Mean scores: 30 vs 23. $p < .001$.

those with multiple long-term health conditions that did not include a mental health condition. This is illustrated in below.

Figure 12: Employment status and mental health in respondents with comorbid long-term health conditions (LTCs)



The impact of mental health conditions on employment was further indicated by the finding that, when looking at all respondents with any long-term health condition, those with a mental health condition were much less likely to be in employment: 51% compared to 68% of those with one physical long-term health condition.

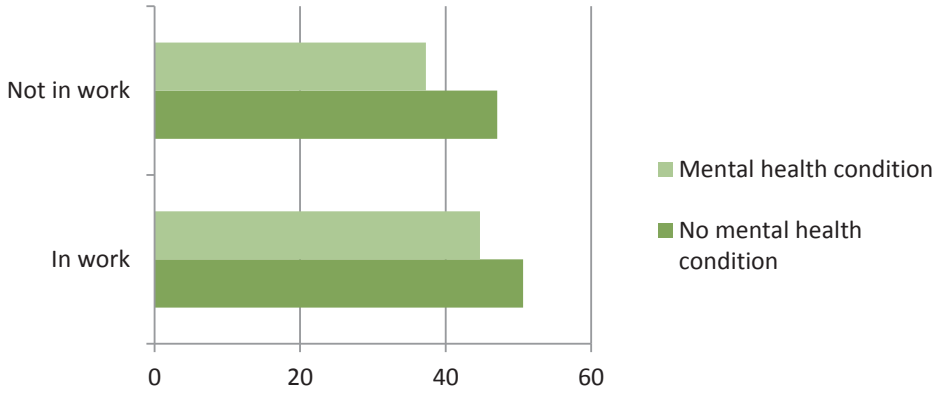
Of those with multiple long-term health conditions who described themselves as being 'permanently unable to work because of long-term sickness or disability', the majority (53%) had mental health conditions. In addition, more than a quarter (27%) of all respondents with *any* mental health conditions (single or multiple) described themselves as 'permanently unable to work because of long-term sickness or disability'. Respondents with a mental health condition were also significantly more likely to be unemployed: 6% of respondents with a long-term mental health condition reported they were looking for work/training compared to 3% of those without a long-term mental health condition. A further 4% with a mental health condition said they intended to look for work but were prevented from doing so by temporary sickness compared to 0.4% of those without a mental health condition.

Our analysis found that among working age respondents with two or more long-term health conditions, the average age of those whose comorbidity included a mental health condition was 46 years, compared to 50 years in those with physical long-term health conditions and no mental health condition. This difference may be an influence on the lower employment rate observed in respondents with multiple mental health conditions.

Figure 13 illustrates the relationship between work status and wellbeing scores for those with mental health conditions. Those with multiple long-term health conditions which include a mental health condition, on average reported significantly lower wellbeing: 39.8 compared to 49.1 for individuals with multiple physical long-term health condition and no mental health condition.[99]

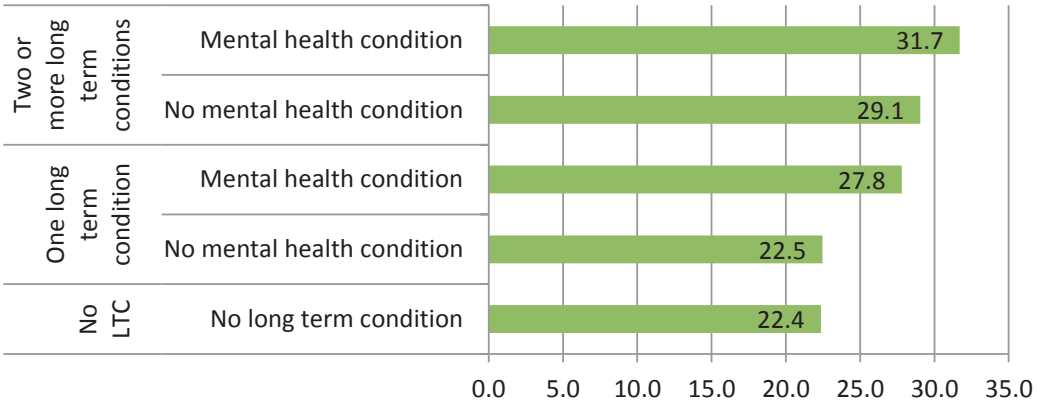
(99) **Notes**: A score of less 0-32 points is very low, 32-40 points is below average, 40-59 points is average, and 59-70 points is above average.

Figure 13: The relationship between work, wellbeing and mental health in those with comorbidities



Poorer perceptions of job security were also associated with the presence of mental health comorbidity. As discussed above, participants were asked to rate the likelihood that they would lose their job and become unemployed within the next twelve months, on a scale of 0 (definitely not) -100 (definitely will). As shown in Figure, those with a comorbidity that included a mental health condition were more likely to feel they were at risk of losing their current job – rating it on average 32, compared to 29 amongst those with comorbidity but no long-term mental health condition, and 28 in those with a single long-term health condition that related to mental health.

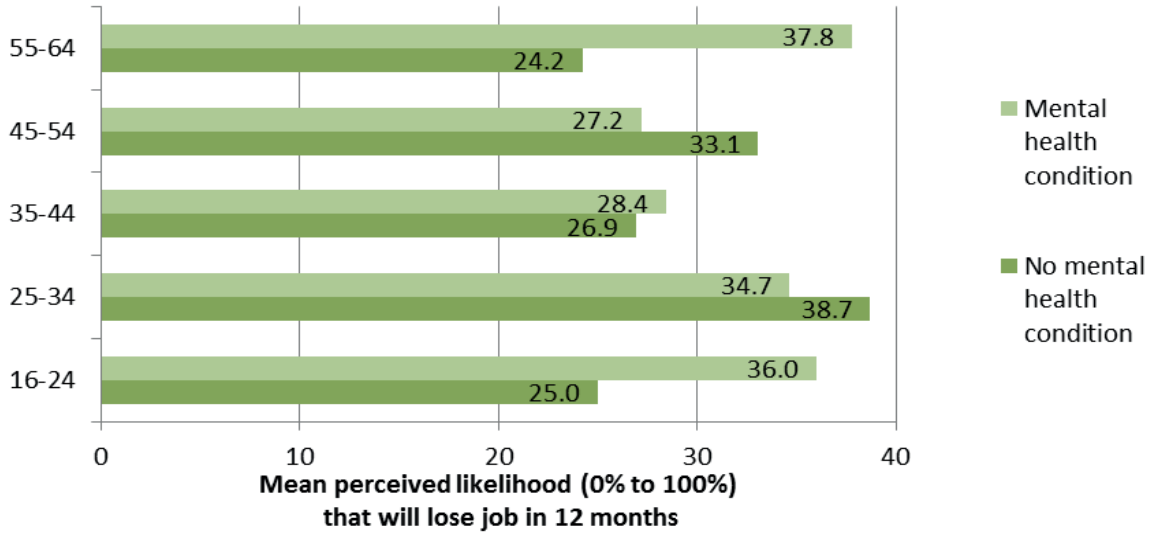
Figure 14: Perception of job security in respondents with a mental health condition



How likely (%) will lose job & become unemployed in next 12m
Base: All working age respondents in employment (n=4095: 3931 respondents without and 164 with a mental health condition)

The relationship between mental health and employment warrants further exploration to improve understanding of other variations between groups within the sample, such as the significant, and non-intuitive, differences between respondents with comorbidity in different age groups illustrated by Figure 15. There was a distinct difference in perceptions of job security between those with mental health comorbidities and those with only physical conditions among certain age groups (youngest 16-24 and oldest 55-64) which was much less clear in the 35-44 age group, and reversed in the 45-54 and 25-34 age groups. This suggests variations in mental health related insecurity over the career cycle that warrant further investigation.

Figure 15: Age, mental health and the perception of job security in those with comorbidities



Summary: comorbidities and working

This new research aimed to improve understanding of the features associated with positive employment outcomes in people with comorbidities. All of the respondents were of working age, had reported at least two long-term health conditions (co-morbid) and were in paid employment at the time of their original HSE interview. Most had multiple physical health conditions and did not report having a mental health comorbidity. However, 19% reported having both mental and physical long-term health conditions, and 2.5% reported having multiple long-term mental health conditions and no long-term physical health condition.

Although unemployment status was not associated with any particular type of long-term health condition, or the type of comorbidity combination (physical only or physical and mental) other relationships between employment and comorbidity were identified. For example, working respondents with both mental and physical long-term health conditions were more likely than people with physical long-term health conditions only to have had long-term absence from work and to have left a job because of their health.

Despite experiencing multiple long-term health conditions, the clear majority of participants felt that their current workability (current ability to work compared with lifetime best) was high - 30% responding it was at its best. Respondents with disorders of the musculoskeletal system, eyes and mental health had lower workabililty scores compared to those with other conditions and these were significantly lower in those with two musculoskeletal disorders. Also, regardless of the specific long-term health conditions, different symptoms, functional impairments and symptom severity can have a significant effect on work. Difficulty with dexterity, difficulty with mobility, and pain/discomfort were the symptoms which people with multiple long-term health conditions identified as having the greatest effect on their work. In addition, there was considerable variation in the frequency with which people with multiple long-term health conditions were affected by symptoms.

Job satisfaction fell as the number of health conditions increased and those with musculoskeletal conditions had lower job satisfaction compared to those without. Greater perceived likelihood of changing job (in the next two years) was associated with self-reported poorer health.

In terms of support for employees with co-morbid conditions, 73% considered their employer supportive and "Changes to working hours, breaks or shift patterns" was the employment adjustment identified as 'most helpful to stay in work'. Most respondents, felt that their GP had a good understanding of what affected their ability to work, the majority of these found their GP helpful in helping them to manage their health conditions at work or while looking for work. The majority of respondents also found that Occupational Health Services were helpful in managing health conditions at work. However, as the number of health conditions increased the perception of effectiveness of treatments for managing conditions at work decreased. This greater difficultly in effectively treating multiple conditions might have implications for employment as well as other domains.

Key findings include:

- One in every five (19%) of employed/recently employed respondents reported having both mental and physical LTCs.
- More than half reported having at least one LTC that affected the musculoskeletal system, and one in five had a mental health condition.
- Despite having multiple long-term health conditions, 42% did not feel their healthy affected their work, though a further 20% felt their health affected their work 'a lot'.
- When asked whether they had experienced any symptoms that impacted on their ability to do their work, almost half of reported experiencing pain/discomfort (46%) while almost a third (32.5%) reported fatigue/stamina.
- While 37% of employees had told their employer about all their long-term health conditions, a further 20% - 1 in 5 – had not told their employer about any.
- Where disclosure had taken place, the majority of employees felt their employers had been supportive, while 14% reported that they had not. Just a third of these reported that their employer had made some form of adjustment to the workplace - while over half (53%) reported that their employer hadn't made any.
- 60% of employed respondents stated that they had access to an Occupational Health service, and almost half of these had used it.
- Over two thirds (68%) agreed their GP had a good understanding of what affects their ability to work, while 19% said they had never discussed health and work with their GP. For those who had discussed it, most (87%) found their GP very or fairly helpful in helping them to manage their health conditions at work/while looking for work.
- Respondents were asked, 'how likely is it that your health will mean you leave your current job in the next two years/ will be unable to continue your current work'. Almost three-quarters (74.5%) did not feel this was likely (19% not very likely; 55.5% very unlikely), though a small but significant proportion – 1 in 7 - feeling this was very (6.5%) or quite (8%) likely. Greater perceived likelihood of changing job in the next two years was associated with self-reported poorer health.

Comorbidities & working: new research

This chapter outlines the results of a telephone questionnaire survey commissioned by The Work Foundation, to improve understanding of the features associated with positive employment outcomes in people with comorbidities.

As we have seen, despite poorer employment outcomes overall, many people with multiple long-term conditions are working, and working well. This has been demonstrated in previous research, in which we highlighted examples of people with multiple conditions in work, and learnt about the important role work had in their lives.[100] In the following section we explore the experience of working with comorbidities, in order to better understand how people might be better supported and enabled to remain in work despite health barriers.

5.1 Methodology

The survey was undertaken in January 2016 by NatCen Social Research, who also conduct Health Survey for England (HSE), with the sample recruited from people who have previously participated in HSE. NatCen were asked to identify 500 people with the following characteristics:

- Reported at least two long-term health conditions (co-morbid)
- Of working age (aged 16-64)
- In paid employment at the time of HSE interview

The respondents were given personal identifiers which enabled linking of data collected in the current questionnaire, to the data collected in Health Survey for England.

To achieve the target number of 500 interviews the sample included people interviewed in the HSE in 2014, 2013, 2012 or 2011. Respondents were screened out if they no longer reported having two or more long-term health conditions (those whose conditions had changed from those reported in the HSE, but were still two or more, were included)[101], or if they were no longer in work and had not been in work for the previous two years (i.e. since January 2014).

Following a pre-approach letter, potential interviewees were telephoned by NatCen interviewers and invited to take part in an interview. The questionnaire was designed by The Work Foundation, though it included instruments from other sources, e.g. the Work Ability Index[102], and replicated or adapted questions used in other related surveys, e.g. Health Survey for England and the Health and Wellbeing at Work: survey of employees[103].

Checks were undertaken to test for any potential bias this caused in our sample, and no significant differences were found. Where differences were noted the effect of these has been

(100) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation
(101) Some respondents no longer had conditions they reported when interviewed for the HSE and a third had a new long-term health condition that they had not had at the time of the HSE interview (2011-14).
(102) Work Ability Index - see http://www.ageingatwork.eu/?i=ageingatwork.en.tools.4
(103) Health and Wellbeing at Work: survey of employees - see https://www.gov.uk/government/publications/health-and-wellbeing-at-work-survey-of-employees

taken into account in interpreting the findings. For example, people who were interviewed for the HSE in 2011 were significantly more likely to have changed jobs than those interviewed in 2014.

After cleaning, data from 489 completed questionnaires was analysed. The sample characteristics were broadly representative of the targets set for the survey sample based on the secondary analysis of the 2013 HSE working population with comorbid long-term health conditions. Table 3, below, provides summary of the key demographics of the sample.

Table 3: Sample characteristics

Gender	
Male	41%
Female	59%
Age	
22-34	9%
35-44	16%
45-64	71%
65-66	4%
Work status	
In work	89%
Not in work	11%
Hours employed	
Full-time	72%
Part-time	28%
Employer	
Employed	74.5%
Self-employed	14.5%
Not in employment	11%
Sector	
Private	55%
Public	40%
Voluntary	5%
Number of conditions	
2	50%
3	31%
4	13.5%
5 - 8	5.5%

5.2 Long-term health conditions, comorbidities and health in the sample population

Respondents were asked what long-term health conditions (lasting 12 months or more) they had. They were first asked to reflect on each long-term health condition they reported having in the HSE, and then asked whether they had any other long-term physical health conditions and long-term mental health conditions. Table provides a summary of the type of long-term health conditions identified in the group.

Table 4: Type of LTCs reported (one or more conditions present)

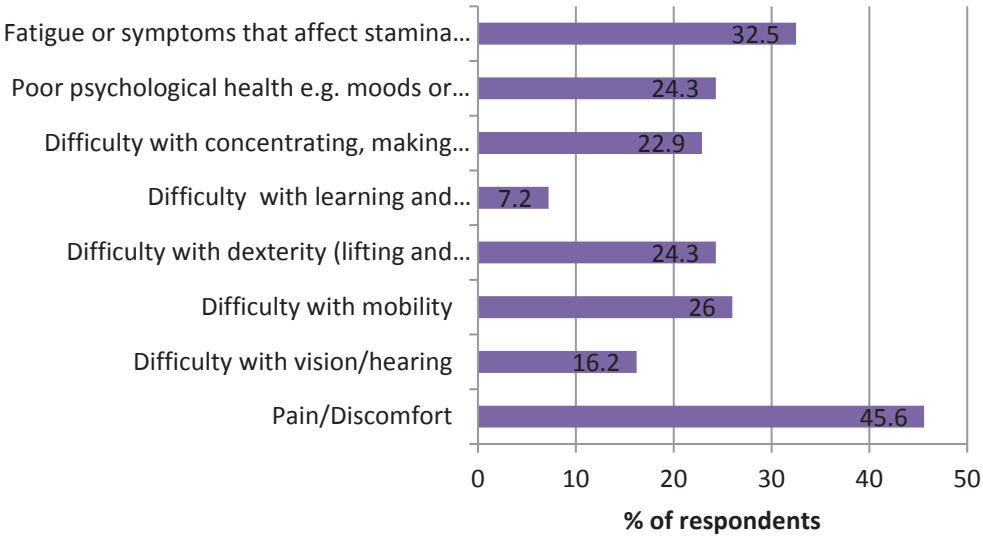
Type of condition	% of sample reported (n=489)
Musculoskeletal	53.0%
Heart and circulatory system	30.5%
Endocrine and metabolic system	29.0%
Respiratory	26.0%
Mental health related	21.0%
Digestive	20.0%
Nervous system	12.0%
Ear complaints	8.5%
Skin complaints	8.5%
Genito-urinary system	6.5%
Eye complaints	5.5%
Neoplasms	5.0%
Blood and related organs	4.5%
Other complaints	3.0%
Infectious diseases	0.5%

In terms of the nature of multiple long-term health conditions experienced, the clear majority (78.5%) had multiple physical health conditions and did not report having a mental health comorbidity. Only 19% reported having both mental and physical long-term health conditions, and just 2.5% reported having multiple long-term mental health conditions and no long-term physical health condition.

Of the 259 people reporting musculoskeletal conditions, 73% reported having multiple musculoskeletal conditions. The most common physical long-term health condition co-occurring with a mental health condition were musculoskeletal conditions (9%), respiratory related conditions (6%) and conditions affecting the heart and circulatory system (4.5%). Women appeared to be more likely to have physical and mental comorbidity than men (statistically significant at the 0.05 level).

Respondents were asked about the symptoms they experienced as a result of their long-term health conditions. This is summarised in Figure 16.

Figure 16: Symptoms experienced by people with multiple LTCs



Respondents were asked how their health was in general - very good, good, fair, bad, or very bad. 10% of respondents described their health as 'bad' or 'very bad' and 51% as 'very good' or 'good'. Compared to responses to the same question in the most recent HSE interview (conducted in 2014) respondents were more likely to describe their health in negative terms.

We found no statistically significant relationship between self-reported health and the type of comorbidity combination (physical only or physical and mental). This was in contrast to the findings from the analysis of questions which specifically asked about the impact on their health on their work which is discussed in the following section.

5.3 The effect of comorbidity on ability to work

No statistically significant association was found between presence of any particular type of long-term health condition and employment status, or between the type of comorbidity combination (physical **only** or physical and mental) and employment status.

5.3.1 Health as a reason for leaving a job

Respondents who reported that they were no longer in the same job they were in when interviewed for HSE were asked *"To what extent is your health the reason you are no longer in that job?"*.

16.5% of respondents were in a different job from that recorded when they were interviewed for the HSE (2011-14). Almost three quarters (73%) reported that health was not the reason why they were no longer in that job.

The same question was asked of the 53 people who were not working at the time of our questionnaire. 45% said health was the reason they had left their previous job. Retirement was the most common primary reason given for leaving (47%), and 20% reported redundancy. 23% said health was the main reason they were not currently in work, 24% said they either did not need or want to work, and 6% said they could not find work. 44% thought it likely their health would prevent their return to work in the future.

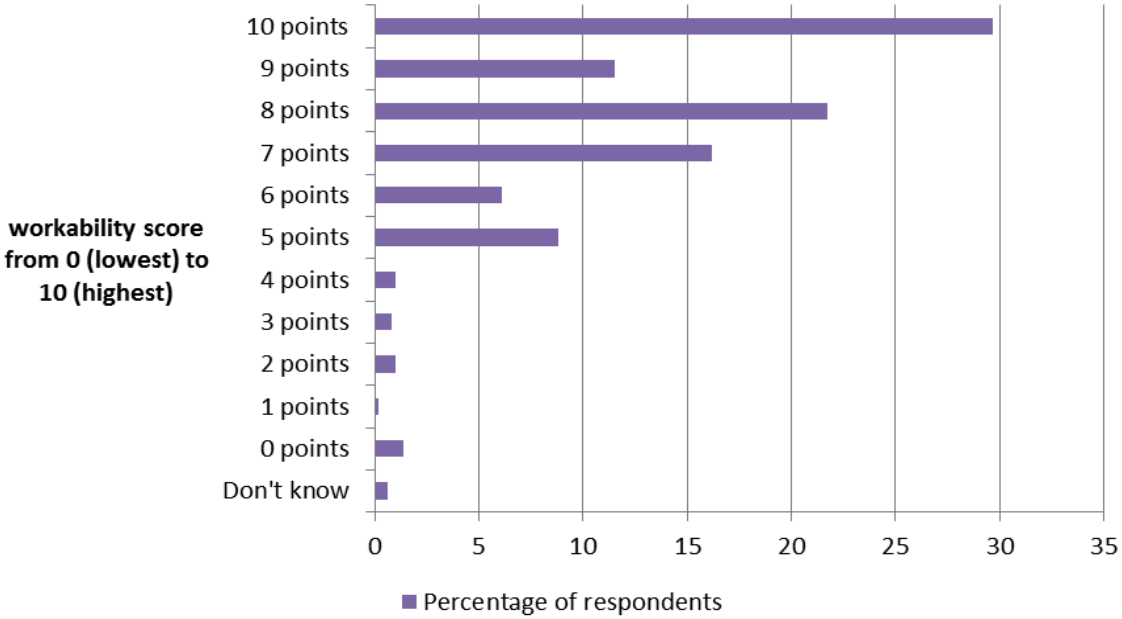
Working respondents with both mental and physical long-term health conditions appeared statistically more likely than people with physical long-term health conditions only to agree with the statement that that their health was the reason they were no longer in that job (statistically significant at the 0.05 level). However, this difference was not observed in those not currently working.

5.3.2 Workability - current ability to work compared with lifetime best

Respondents were asked to rate their 'workability', where ability to work at its best has a value of 10 points and 0 is 'cannot currently work at all'.[104] As shown in Figure , nearly one third of respondents said their current ability to work was at its best and 85% said it was above 6.

(104) The validated Work Ability Score (WAS) was used: the worker's self-assessment of his/her current ability compared to the lifetime best, from 0 to 10. The following categories are suggested to interpret the results: poor (0–5 points), moderate [6, 7], good [8, 9], excellent [9]. Source: http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-305 http://www.ncbi.nlm.nih.gov/pubmed/24699727

Figure 17: Current ability to work compared with lifetime best



Analysis found those with disorders of the musculoskeletal system, eyes and mental health had lower workabililty scores compared to those with other conditions (at the 0.005 level of significance). Additionally, workability scores were significantly lower in those with two musculoskeletal disorders (at the 0.005 level of significance).

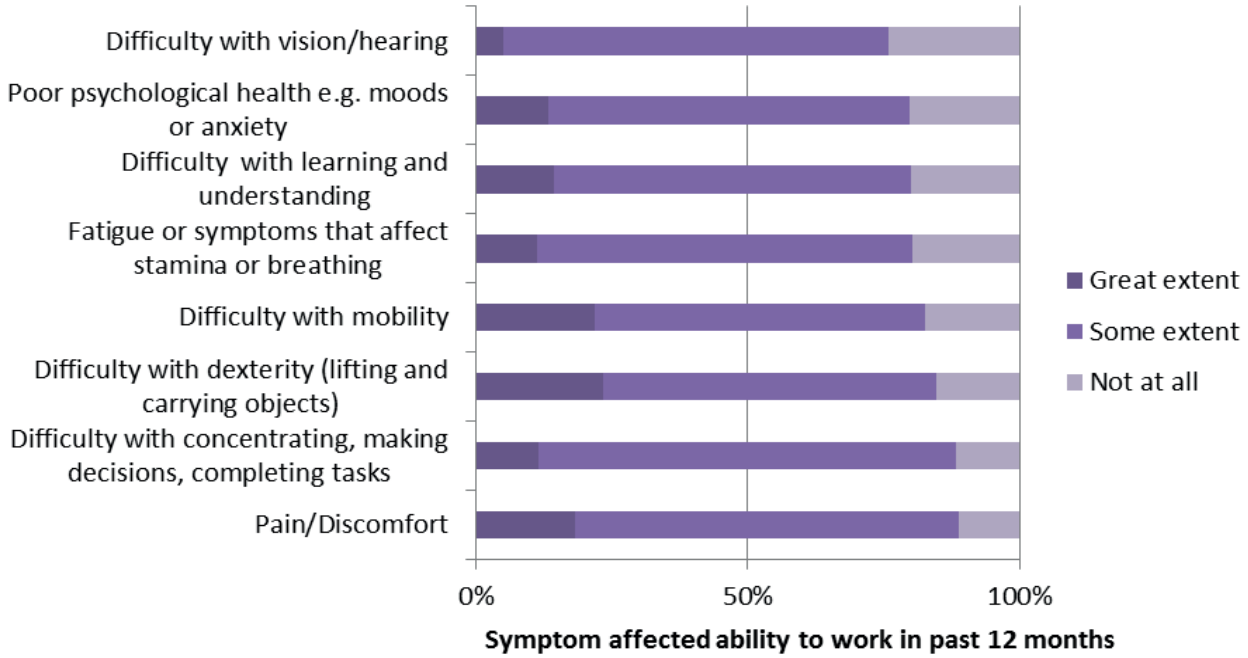
5.3.3 Effect of health on work

Respondents were asked the extent to which in the last 12 months, *'you feel your health has affected your ability to do your job/work?*' 59% reported that their health affected their ability to work to some extent (20% said 'a lot', and 39% 'a little'), while 41% reported 'not at all'.

Respondents were more likely to report that their ability to work was affected by specific symptoms/ functional impairment. Respondents who reported that they experienced a given symptom to 'a great extent' or 'some extent' were then asked about frequency they experienced this. As illustrated in Figure 18, there was considerable variation in the frequency with which people with multiple long-term health conditions were affected by symptoms. Symptoms such as difficulty with dexterity, mobility and vision/hearing were rather more clear-cut - with people more likely to experience this all of the time, or occasionally. Others, and particularly pain/ discomfort and fatigue appeared much more likely to fluctuate, with more people stating they experienced it 'some of the time'.

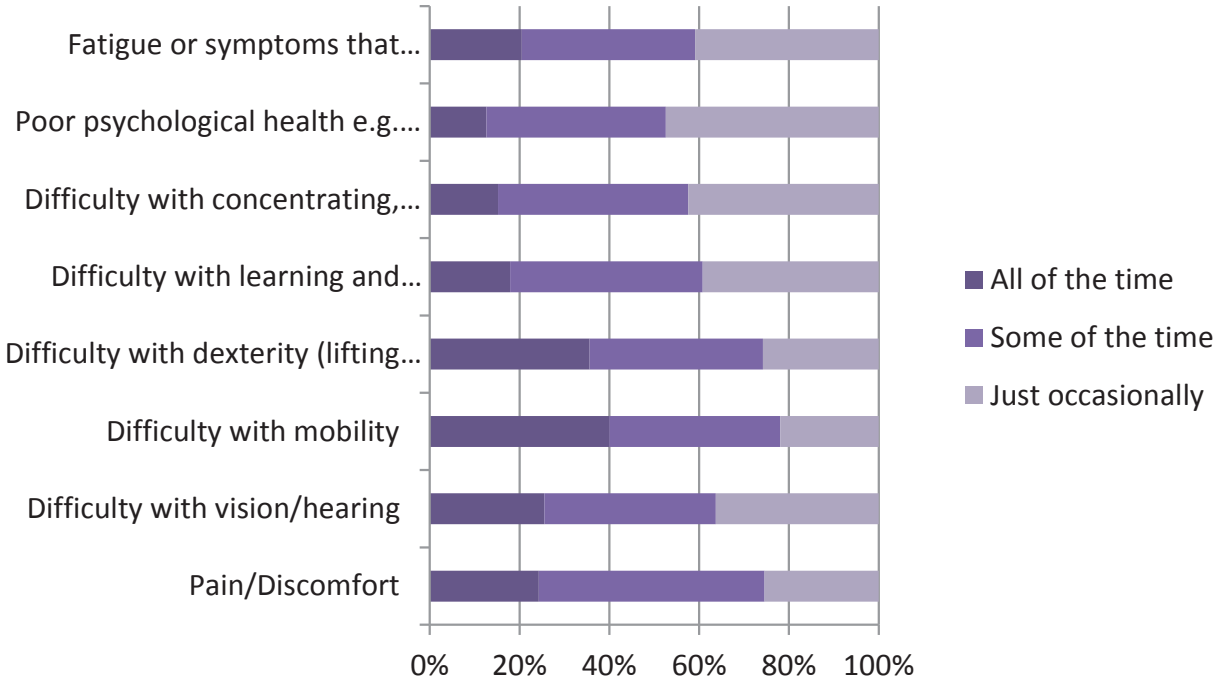
For each symptom that they reported experiencing, respondents were asked the extent in the last 12 months that each symptom *"affected your ability to work/do your job*". Figure 18 shows that regardless of the specific long-term health conditions, different symptoms, and different symptom severity can have a significant effect on work. Difficulty with dexterity, difficulty with mobility, and pain/discomfort were the symptoms which people with multiple long-term health conditions identified as having the greatest effect on their work.

Figure 18: Symptoms (Functional impairment) experienced and extent health affects work



Respondents who reported that they experienced a given symptom to 'a great extent' or 'some extent' were then asked about frequency they experienced this. As illustrated in Figure 19, there was considerable variation in the frequency with which people with multiple long-term health conditions were affected by symptoms. Symptoms such as difficulty with dexterity, mobility and vision/hearing were rather more clear-cut - with people more likely to experience this all of the time, or occasionally. Others, and particularly pain/discomfort and fatigue appeared much more likely to fluctuate, with more people stating they experienced it 'some of the time'.

Figure 19: Frequency of experiencing symptoms



5.3.4 What aspects of work does a long-term health condition affect?

Our questionnaire sought to explore a broad range of factors which might influence employment. Of all those currently in employment, 13% reported their relationship with colleagues had been affected by their health, with two thirds of these saying the impact was negative. A similar proportion, 15% of employees stated that their health had affected the relationship with their line manager; with almost three quarters (72%) saying it was affected negatively. 13% of respondents said their health made it difficult to travel to or from work and almost one in five (19%) stated that health affects life outside of work. No statistically significant relationship was identified between the type of comorbidity combination (physical only or physical and mental) in response to these questions.

Over a third (35%) of respondents said their health condition had affected their motivation to work, with the clear majority (91%) stating that it had made them less motivated to work. We found those with a mental/physical comorbidity were more likely to report their health had negatively affected their motivation to work (statistically significant at the 0.001 level).

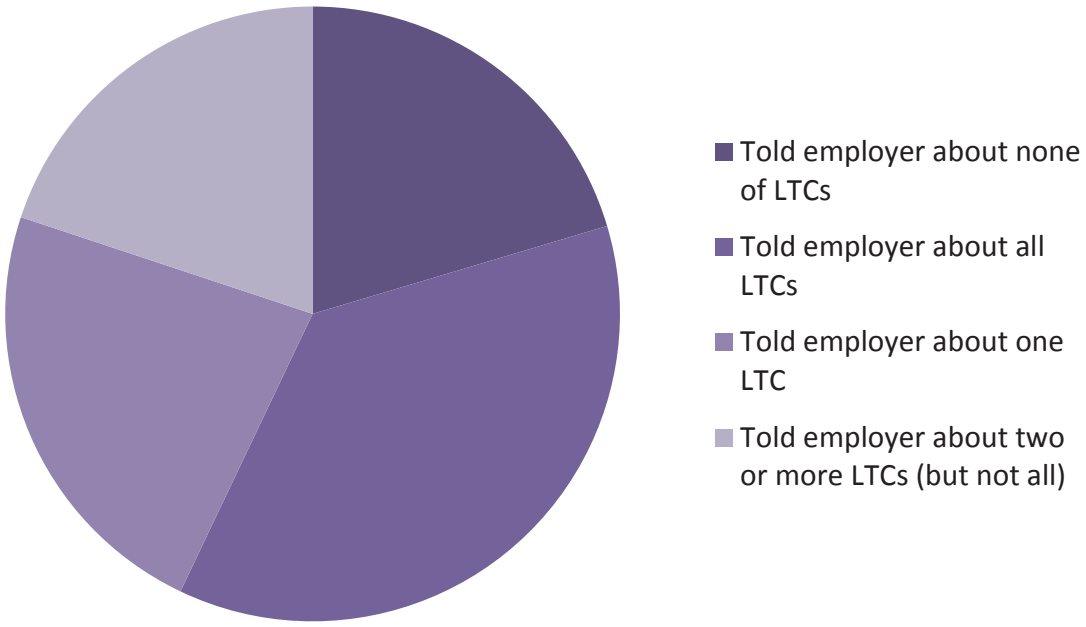
5.4 Support at work

Respondents were asked about the types of support they received to help them manage their health at work.

5.4.1 Disclosure

As shown in Figure 20, although the largest group (37%) had told their employer about all their conditions, 20% of employed respondents had not told their employer about any of their long-term health conditions, while 23% had only told them about one.

Figure 20: Disclosed long-term health condition (LTC) to employer



The two most common reasons respondents gave for not disclosing their health condition are "not seeing the point" at 35% and that it "does not affect my work" at 32.5%.

5.4.2 Support from employers

Respondents who had told their employer about at least one condition were then asked concerning that specific condition, *'How supportive do you feel your employer (has been/was) in helping you manage that condition at work?'* 73% considered their employer supportive, whereas 14% did not.

No statistically significant differences were found in terms of perceived level of employer support between respondents with different type of condition or comorbidity characteristics (physical only compared with physical/mental long-term health conditions); nor were there differences between those employed in different sectors (private, public or voluntary).

5.4.3 Adjustments made by employer

Respondents who had disclosed at least one condition to their employer were asked if their employer had made any form of adjustment to help them manage their health condition at work. 53% said their employer had not made any adjustments, 34% said their employer had made some form of adjustment, and 13% spontaneously reported that they did not require any adjustments.

Interviewees who had received an adjustment were on the whole very positive about the adjustments made:

- Over 90% said they 'had a say in the adjustments' made
- Over 90% said their manager 'was positive about making these adjustments'
- Over 90% said they 'were in place for as long as they needed them'

"Changes to working hours, breaks or shift patterns" was the adjustment identified as 'most helpful to stay in work'.

A Chi-square conducted on this sample found a positive statistically significant relationship between whether the employer had made adjustments and the following factors:

- Physical comorbidity.
- Number of conditions (the higher the number of conditions the higher the likelihood of the manager having made adjustments)[105].
- The frequency symptoms were experienced (the higher the frequency they were experienced, the more likely it was that adjustments would be made). This was only true for certain symptoms - difficulty concentrating, making decisions or completing tasks, fatigue, and symptoms that affect stamina or breathing.
- Where pain or discomfort were experienced.

No statistically significant association was found between whether the individual had had a say in the adjustments made and the type of comorbidity combination (physical only or physical and mental) or symptom type.

5.4.4 Occupational health services

Three fifths (60%) of employed respondents stated that they had access to an Occupational Health Service, and 45% of those with access used it. 59% of individuals who used it stated that it had been compulsory to do so, with 63% stating that they would have used it regardless.

(105) Just over half of those with four or more long-term conditions reported their employer had made an adjustment to help them manage their condition at work (52%, n=36 compared to 25% of those with two long-term conditions and 37% of those with three; statistically significant at the 0.01 level).

This is a higher level of access, and use, than reported in similar surveys – such as the 'health and wellbeing at work employee survey', where 51% reported access[106], and more strikingly the 'Understanding the journeys from work to Employment and Support Allowance'[107] were just 33% of recent ESA claimants reported having had access to OH in their previous job.

Respondents that had used Occupational Health Services in their current or previous job were asked about their last contact with that service:

- 23% said the focus of that contact was on all health conditions, and 65% said it was on just one condition
- 79% agreed/strongly agreed that 'the Occupational Health Service had a good understanding of what affected my ability to work'
- 66% agreed/strongly agreed that 'the Occupational Health Service was helpful in managing all of my health conditions at work', and 13% disagreed.

No statistically significant association was found between access to Occupational Health Services and: the extent to which health has affected work in the last 12 months; the likelihood for the individual of changing occupation in the next two years; the type of combination of comorbidity (physical only or physical and mental); the extent of access to the Occupational Health Service, or; the extent to which the respondent had found the Occupational Health Service helpful.

5.4.5 Sickness absence

28% reported having taken a long period of absence (at least 7 days) in the past 12 months with 8% having had more than one such period of absence (71% reported no long absences). Just two people were on sick leave at the time of the interview. Of those who had taken at least 7 days sick leave in the last 12 months, 63% said it was related to a long-term health condition already mentioned in the interview, while 37% reported it was for 'some other reason'. People with physical and mental long-term health conditions were more likely than people with physical long-term health conditions only to report having been absent from work in the past 12 months due to sickness lasting at least seven days (significant at the 0.005 level).

5.5 Support from health system

Respondents were asked about the support they receive from the health system – in terms of treatment, but also via work-related initiatives and GP support for working.

5.5.1 Effectiveness of treatment in helping participant to manage health at work

Most respondents (83%) were undergoing treatment for at least one of their health conditions. They were asked about the effectiveness of that treatment in helping them manage at work. A mean overall 'score' was calculated for each respondent: 'very effective'=9; 'fairly effective'=6; 'not very effective'=3; and 'not at all effective'=0. There was no statistically significant relationship between the effectiveness of treatment and employment rates.

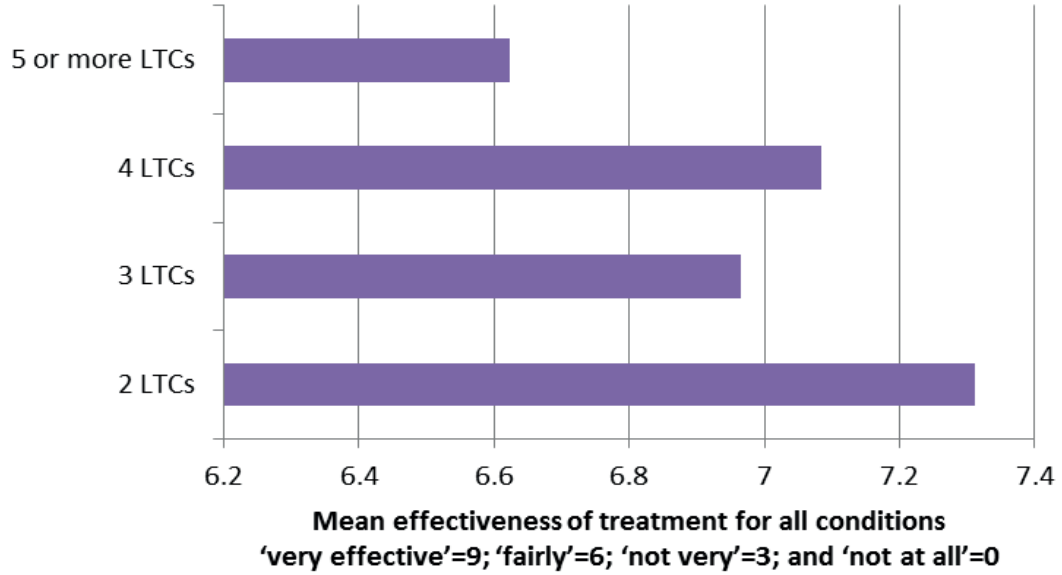
Figure 21 shows the 'mean effectiveness' for respondents with different numbers of conditions (two to eight). Differences between groups were not statistically significant, but there is a pattern of linearity (significant at the 0.05 level), which suggests that the effectiveness of treatment falls as the number of conditions increases. When the mean effectiveness of treatment was aggregated into two groups - below/above the average for all respondents (7.12) - those with

(106) Steadman, Wood, and Silvester (2015) Health and wellbeing at work: a survey of employees, 2014. London: The Stationery Office. Available from: https://www.gov.uk/government/publications/health-and-wellbeing-at-work-survey-of-employees

(107) Adams, L., Oldfield, K., Riley, C., Duncan, B., & Downing, C. (2015) Understanding the journeys from work to Employment and Support Allowance (ESA). London: The Stationery Office.

two conditions appeared more likely to say their treatment was effective for managing their condition at work, compared to those with three or more conditions (significant at the 0.05 level). Greater difficultly in effectively treating multiple conditions might have implications for employment as well as other domains.

Figure 21: Perception of treatment effectiveness in those with multiple LTCs



There were some statistically significant differences in terms of different types of conditions, but regression analysis confirmed that the number of conditions was more strongly associated with the effectiveness of treatment than the type of condition. Indeed, just two conditions - endocrine and metabolic system and those of the respiratory system - were found to have a statistically significant (at the 0.01 level) positive relationship with whether a respondent was likely to rate treatment for all conditions as above average in terms of its effectiveness for managing long-term health conditions at work.

5.5.2 Fit notes and contact with a GP

Two thirds (67%) of those who reported having been absent for 7 days or more in the past 12 months, were provided by a GP with Statement of Fitness for Work certificate – also known as a 'fit note'.

For 68% of these the 'fit note' referred to their aforementioned condition or combination of conditions, while for 20% the 'fit note' was for a different illness or reason. 2% didn't know what had been written on the fit note. 54% had one single condition recorded on the 'fit note', and only 14% had a combination of more than one. Despite this, over 80% agreed that their fit note fully reflected the impact of all their health conditions on work, compared to 9% who disagreed. This implies that in many cases it is perceived as single condition that is affecting work.

Of all respondents, 68% agreed their GP had a good understanding of what affects their ability to work, 12% disagreed and 19% said they had never discussed this with their GP. For those who felt their GP had a good understanding, most (87%) found their GP very or fairly helpful in helping them to manage their health conditions at work/while looking for work.

Twenty-six percent of respondents stated that they had received support from a source other than GP or employer. This included support to engage in physical activity, physical therapy (for example from a physio), and psychological support (e.g. counselling or CBT).

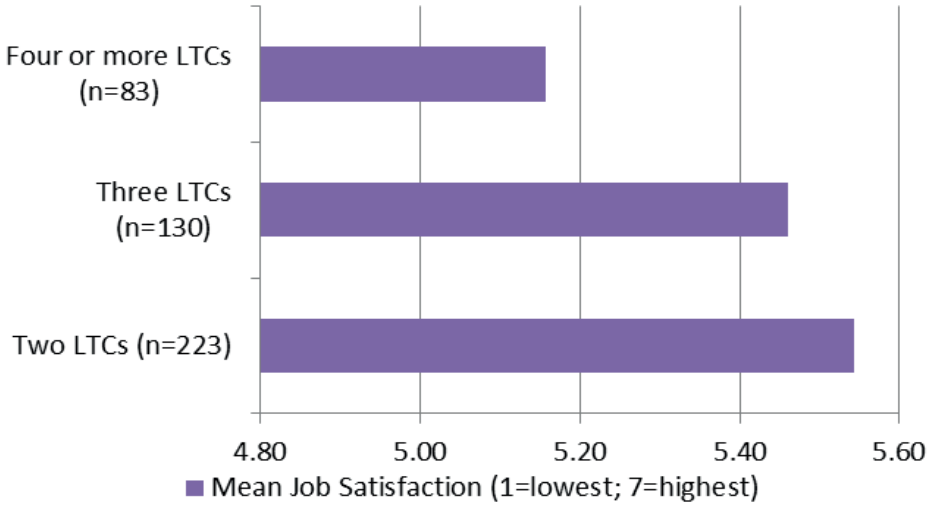
5.6 Jobs and comorbidity –employment characteristics

Respondents were asked how they felt about their job and their future prospects.

5.6.1 Job satisfaction

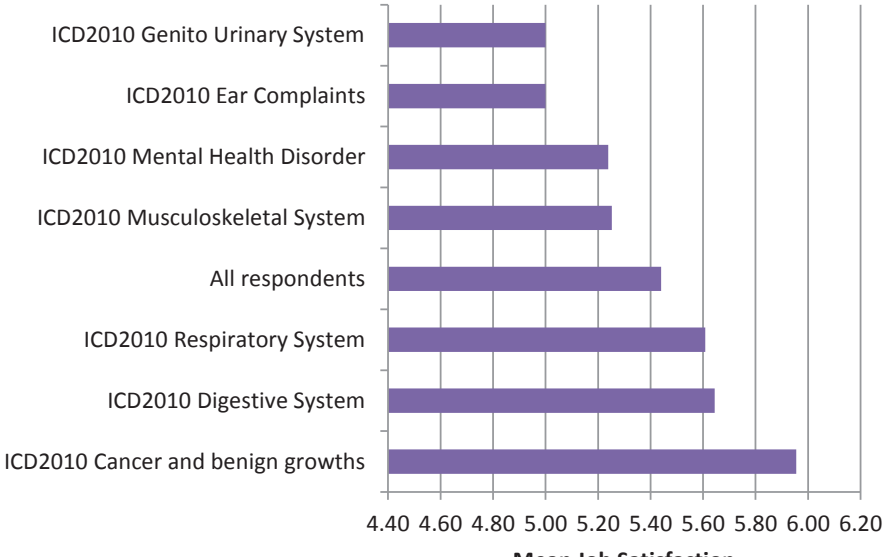
Respondents were asked to rate their job satisfaction on a scale from 1 to 7 (7 being the highest level of satisfaction). 52% rated their job satisfaction between 6 and 7, with just 5% rating it between 1 and 2. As shown in Figure 22, on average, respondents' satisfaction with their current job fell as their number of conditions increased. These differences were statistically significant (at 0.05 level) for those with four or more conditions compared to those with two conditions.

Figure 22: Job satisfaction and number of long-term health conditions (LTCs)



The mean job satisfaction for all working respondents was 5.44, but varied by type of conditions - ranging from 5.95 in respondents with cancer and benign growths to 5.00 in those with conditions of the genito-urinary system. Figure 23 shows the seven types of condition that have a statistically significant impact - positive or negative - on average job satisfaction compared to not having the condition (t-tests). The statistical evidence indicated that those with musculoskeletal conditions on average had lower job satisfaction compared to those without (significant at 0.01 level).

Figure 23: Mean job satisfaction and type of condition



Note: ICD2010 is the International Statistical Classification of Diseases and Related Health problems (World Health organisation) 10th revision

Those with a physical comorbidity had higher mean Job Satisfaction than those with a physical/ mental comorbidity but these differences were not statistically significant.

Higher mean job satisfaction was observed in respondents who had told their employer about all their health conditions, compared to those who had not disclosed all conditions. Amongst respondents who had told their employer about at least one health condition, mean job satisfaction was positively associated with perceptions of support from employers.

The mean job satisfaction of respondents working in the public sector was significantly lower compared to those in the private or voluntary sectors; and those who were self-employed on average had higher mean job satisfaction than those who were employed. These differences were significant at the 0.01 level.

5.6.2 Likelihood health will mean a change of job

Respondents were asked, *'how likely is it that your health will mean you leave your current job in the next two years/will be unable to continue your current work'*. 6.5% of employed respondents answered it is very likely, 8% that it is quite likely, 19% that it is not very likely and 55.5% that it is very unlikely.

Greater perceived likelihood of changing job in the next two years was associated with self-reported poorer health (statistically significant at the 0.001 level). Reflecting earlier findings, there were no other statistically significant associations with this variable. This reflects other research which has indicated that self-assessed health is a robust determinant for entry into and exits out of employment[108].

(108) Garcia-Gomez, P., Jones, A., & Rice, N. (2010). Health effects on labour market exits and entries. Labour Economics, 17(1), 62-76

Implications and recommendations

6.1 Implications

In this study we took an in-depth look at employment among the working age population with multiple long-term conditions (LTCs). This is a large and growing proportion of the population – we estimate some 5 million people in England alone – whose complex health issues are currently, or may in the future, affect their ability to work.

Where people experience multiple LTCs, outcomes are worse for a range of employment-related measures. The chances of being in employment reduce as the number of conditions increases - and similarly with the number of impairments. This might be indicative of the greater complexity in the challenges faced by people managing multiple health conditions in the labour market. This and previous evidence indicates a cumulative effect on a range of employment outcomes of having multiple conditions – particularly where there is a combination of mental and physical health conditions.

The importance of mental illness is abundantly clear. It has a substantial and highly detrimental impact on employment outcomes when occurring on its own, but even more so where occurring alongside a physical health condition. Those with mental health conditions had lower rates of employment – reflected by higher rates of unemployment, economic inactivity, and early retirement – than their peers with physical health conditions, and were more likely to be unable to work due to their health. Negative implications were also found for the 21% of people with multiple conditions that included mental illness who were in (or were recently in) employment. They reported lower wellbeing, greater concern over job security, lower workability and lower motivation on average than their peers with multiple physical conditions. Further, the onset of a mental health comorbidity appeared to be earlier than a physical comorbidity, possibly contributing to these worse outcomes.

The implications of musculoskeletal disorders (MSK) in working age, and particularly among the in-work population also warrants consideration. Among those with comorbidities in or close to work (as measured through our survey), MSK were the most prominent condition-type identified in over half of the sample – three quarters of whom reported having more than one such condition. Further, looking at the type of symptoms which affected work, we see those commonly associated with MSK - such as difficulty with dexterity, difficulty with mobility, and in particular pain/discomfort - were the symptoms which people with multiple long-term health conditions identified as having the greatest effect on their work. This was further borne out in the lower workability scores reported for this group.

The experience of pain and discomfort (not limited to MSK) also warrants attention, this report highlights the importance of exploring such functional symptoms which are implicated in a wide range of conditions and syndromes. The functional aspect was clearly important, with the extent to which respondents felt their daily activities were limited by their health was a clear predictor of being in work, with employment outcomes even worse where conditions were multiple. Self-perception of health was also unsurprisingly important; self-reporting health as poor was the single factor significantly associated with a belief that health would cause people to leave their job in the following two years. It is this sizeable minority (14.5%, around 1 in 7) who felt it was quite or very likely they would leave, who we perhaps need to focus our attention on.

However this was only a small proportion of our sample; the clear and very positive message here is that for many people with multiple, long-term health conditions, work is a positive part of their lives. The majority of respondents, regardless of their specific conditions, were satisfied with their job, reported their workability as high, and felt confident that their health would not be a barrier to continuing in their work in the near future.

6.1.2 Current health and work policy agenda

The findings of this work are apposite to the current health and employment policy agenda. In terms of health, the NHS Five Year Forward View highlights the need for better integration of a range of health, social and other services - including mental and physical health support, and integrating health with a broader range of services which address health-related issues (such as social care, housing and employment) in terms of preventing and managing health conditions. Indeed, there is increasing recognition in the health agenda of the positive role that employment can play even for patients with complex health needs.

It is also of considerable relevance to the Department for Work and Pensions, and particular the joint development with the Department of Health (via the Work and health joint unit) of the forthcoming Work and Health Green paper. This paper will outline the government vision for supporting people with long-term conditions to return to, remain in, and progress in the labour market, looking from a number of angles. This will likely include:

- The roles for welfare to work support through the new Work and Health Programme and the Jobcentre Plus;
- The role for the health system in recognising the positive role that good quality work can have for someone's health and wellbeing and supporting patients to achieve this where it is a desired outcomes; and,
- The role for employers - many of whom struggle to manage the complex health conditions experienced within their workforce, while others still do not see employee health as their business, or worse, may be contributing to the burden of ill-health in their workforce.

6.1.3 Implications for retention

This report plays specific heed to retention. The challenges of supporting someone with ill-health to return to work can be considerable – not only in terms of their functional capacity to work, but also due to the nature of the labour market, access to healthcare, stigma about health conditions and periods of unemployment/inactivity, loss of confidence associated with being out of work, and a wide range of other social and emotional issues. Further there is a risk of the development of comorbidities, and particularly mental health comorbidities (such as anxiety and depression) influenced by periods of being out of work. It is widely agreed that prevention is a better solution, and we are seeing a shift in emphasis towards supporting people to remain in work.

Our commissioned research took an exploratory look at what support comes into play when managing multiple conditions at work; including what is being used and how.

Though people with comorbidities were dispersed across the labour market, we found a greater likelihood that they would be in part-time, in non-managerial and manual roles. Many are self-employed, and interestingly, it is more likely they will work in small organisations, which are traditionally seen as a challenge as far as health and work interventions are concerned[109].

Within a workplace, access to support is achieved only through disclosure. Though most had disclosed at least one of their conditions, a somewhat concerning 1 in 5 employees with multiple conditions had not discussed any of their multiple health conditions with their employer. There

(109) McEnhill, L., & Steadman, K. (2016) *This Won't Hurt a Bit: Supporting small business to be healthy, wealthy and wise.* The Work Foundation: London

is a broad concern here - even where someone's health may not be seen as a particularly pertinent problem for work at that time, poor awareness of employers and occupational health about the range of conditions an individual has may reduce capacity to develop holistic support plans, or to engage early intervention activities which may stop conditions worsening.
On average, those who had disclosed reported higher job satisfaction. Though we do not know the extent to which the positive work environment encourages disclosure, or it is positive because disclosure was supported, either way they come hand in hand. An important role for occupational health services was also indicated – with our survey indicating that access to and usage of such support was higher than indicated by similar employee surveys; perhaps contributing to retention.

Outside of work, those who had discussed health with a GP felt that they had been helpful and understood their work challenges. The statement of fitness for work (aka the 'fit note') was introduced as a tool to improve communication of an individual's health needs to employers, and provide them with guidance on how to support a full return to work. In practice, this element is underused, and particular concerns have been raised about the extent to which the fit notes are used to reflect the complexity of the conditions and the barrier to work, the extent to which mental illness is recognised, and the extent to which advice is provided by GPs. The high levels of satisfaction, and perceptions of GP understanding of their needs implies that for our research population, most of whom remained in work, the fit note had a relevant role. This might be particularly important given that the likelihood of finding effective treatment which supports return to work decreases as the number of health conditions increases.

This study showed that having multiple conditions is common, and increasingly so, even among working age. With 1 in 7 of the working age population experiencing more than one LTC, we need to be sure that relevant stakeholders – in particular employers and policymakers – are aware, and that the systems and the process are in place which reflect this complexity. It is recognised, as highlighted by our 2010 study, that there is a paucity of workplace interventions explicitly address chronic physical health and mental health conditions together[110].

(110) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation

6.2 Recommendations

Building on The Work Foundation's previous work, including a prior report on comorbidities, Body and Soul[111] , we make a number of recommendations focussed on improving the prevention, recognition and management of multiple LTCs during working age, and particularly in the working population. In order to support the many of us who do and will experience multiple health conditions which may affect our ability to work, the recommendations are wide ranging, addressing a number of stakeholders who have a part to play.

The Work Foundation is committed to recognising the wide range of barriers that people face to working, including those associated with the occurrence of multiple long-term condition, both physical and mental, their prevention and their management.

We urge that the issues of multiple conditions, and particularly where there are mental health comorbidities, are afforded due attention in all health and work related policy and practice.

Improving the employment outcomes of those facing multiple health conditions need the concerted action of multiple stakeholders from individuals themselves to policy makers across Government. We present our recommendations for each group of stakeholders in turn below.

6.2.1 Individuals

Individuals with multiple health conditions know what they can and can't do, and how this relates to work. It is important that individuals who wish to work, and feel able to work, can be confident in going out and accessing the support they need to allow them to do so, regardless of their health barriers.

- **Seek help and equip yourself with information** – focussing on the elements of health which are causing the greatest difficulties for work. Patient organisations often provide substantial information, while health professionals, and other community support services may also be able to provide advice.
- **Understand how the conditions affect you and your work** – by understanding any triggers for poor health, particularly for fluctuating condition's, can help with managing health at work
- For many conditions, **self-management techniques** can improve your confidence in **managing the disorder and how it will affect your employment.**
- **Look after your mental health**, and do not be afraid to raise concerns with a healthcare professional, or access psychological support on the NHS. Many workplaces also provide access to independent counselling through an Employee Assistance Programmes or occupational health. Mindfulness techniques may also help with stress management.
- **Disclosure of health conditions or concerns at work is an individual decision**. Having the confidence to disclose to your line manager/employers/co-workers about your health condition(s) means that adjustments can be made in the workplace that can support you stay in employment in a way that is suitable for both you and your employer. This can also reduce any stress or anxieties that you have about how you will cope in the workplace. Many people only disclose conditions that they feel are directly affecting work, however, there may be benefits in terms of prevention and early intervention in disclosing all health conditions.

(111) McGee, R., & Ashby, K. (2010). Body and Soul: Exploring the connection between physical and mental health conditions. London, The Work Foundation

6.2.2 Employers

The Work Foundation's previous report on comorbidities, Body and Soul highlighted a number of workplace interventions which have been successfully use to help employees manage specific conditions (McGee & Ashby, 2010). Building on this, we make a number of recommendations which approach the issue of recognising and managing multiple conditions more generally.

Employers need support to recognise that many of their employees might be facing not one, but multiple health conditions which could form barriers to work. They must also be supported to recognise that having multiple conditions need not be an insurmountable barrier.

- First and foremost, employers need to **invest in prevention and early interventions** to prevent the onset of co-morbid conditions due to work factors **including reducing workplace stress for employees, and reflecting on job quality**.
- Second, **employers need to create a climate in the workplace where employees are comfortable with disclosure and processes need to recognise that having multiple conditions is common.**
- Particular attention should be given to **training on management of mental health conditions**, as well as to pain and its implications. Support for employees' self-management is particularly important.
- Providing access to **occupational health support which is holistic and able to consider a range of barriers and concerns** can be highly valuable for employees, particularly those with complex conditions.
- **HR and health-related systems and processes need to recognise that having multiple conditions is common**, and be reflected in practice including the recording of reasons for sickness absence.

6.2.3 Clinicians/health sector

A recent report by The Kings Fund - Bringing together physical and mental health: A new frontier for integrated care[112] - provided a focussed look at the importance of better integrating physical and mental health and care, and made a series of recommendations for how this might be progressed. This includes: commissioning integrated approaches to mental and physical health – particularly in local systems as part of a 'place-based' approach to care (which includes a range of services – stretching beyond health and social care to housing, debt, employment, etc.); financial and contractual incentives to increase accountability for mental health providers to improve physical health outcomes and vice versa; and, redesigning health professional training to ensure all have a common foundation in mental and physical and health, and to create ways for inter-professional learning opportunities.

Such approaches are proposed to improve treatment and management of physical and mental health comorbidities, as well as to improve recognition of risk, prevention and early intervention, to the end of improving a range of individual and social outcomes. These messages, as do our own, complement the priority areas for the NHS highlighted in the Five Year Forward View, and the Five Year Forward View for Mental Health, including the broader recognition that good work comes with many benefits for individuals with heath conditions, and is often health promoting.

In this context, and based on our findings, we make the following recommendations:

- **Develop a multi-condition approach to clinical management.** Building on the existing NICE guidance for recognising and managing depression co-morbid with physical health conditions, and improving other guidelines, such as the NHS England national service specifications. This should include reference to the high risk someone experiencing a long-term physical health condition has of developing a mental health condition (e.g. through psychological adaptation)

(112) Naylor, C., Das, P., Ross, S., Honeyman, M. and Gilburt, H. (2016) *Bringing together physical and mental health: A new frontier for integrated care*. The Kings Fund: London

during treatment, and also as a longer-term health management concern. Health professionals should be encouraged and supported to recognise the high likelihood that patients, even of working age, might have multiple LTCs that might require support.

· Recognise that work is viable and possible for people even with complex conditions. Given the important role that work, and particularly good work, has for people with health conditions in terms of their recovery goals, **work should be better recognised as an outcome of clinical care.**

· Health professionals should provide patients with information and advice on **self-management techniques to support their health at work** – in particular in regards to pain and other functional issues.

· Greater consideration should be given when **conducting medical trials and testing treatment and management interventions for specific conditions to measuring the longer term outcomes relating to the onset or management of comorbidities**, particularly mental health comorbidities. We would also support the inclusion of other longer term outcomes such as employment.

• **Development of commissioning guidance which reflect the wide range of factors which influence people's health,** including the guidance being developed as part of the mental wellbeing focussed 'prevention concordant'. This should include employment. Further it should draw on a range of local stakeholders and service providers – particularly in the voluntary and community sector.

· Commissioners should recognise and support the important role that voluntary and community sector organisations can play in helping people to deal with the psychological challenges of living with a long-term condition.

6.2.4 The Work and Health Joint Unit

The Joint Unit, as with other policymakers in this space, need to be clear that having multiple conditions and multiple functional barriers to work is common, and this needs to be captured and reflected in related policy.

· Ensure systems are able to **capture multiple conditions in social security data.**

· Work to **improve awareness** of the prevalence of multiple health conditions, and their implications for work – among Jobcentre Plus staff, access to work providers and others.

• **Incentivise and support employers to invest in employee health** – for example, through targeted fiscal incentives[113] or developing models of insurance that protect both employees and employers during periods of ill-health.[114]

· Provide employers, and in particular small employers who will be less likely to access occupational health services, with the **tools and resources to help them to manage and support complex, multi-conditions among their workforce.**[115] (McEnhill & Steadman, 2015)

· Continue to **raise awareness of the challenges of mental illness in employment**, on its own but also as a comorbidity.

• **Ensure that health focussed return to work support**, such as that provided by the government's Fit for Work scheme and by other providers, **are adept to provide the holistic support required for someone who may be experiencing a range of physical and mental health conditions**, and that services are aware of the risk, and are actively engaging in preventing, the onset of more long-term conditions, particularly mental health conditions.

(113) Bajorek, Z., Shreeve, V., Bevan, S., & Taskila, T. (2014) *The way forward: policy options for imporving workforce health in the UK*. The Work Foundation: London
(114) Steadman, K., Shreeve, V., & Bevan, S. (2015) *Fluctuating Conditions, Fluctuating Support: Improving organisational resilience to fluctuating conditions in the workforce*. The Work Foundation: London
(115) McEnhill, L., & Steadman, K. (2016) *This Won't Hurt a Bit: Supporting small business to be healthy, wealthy and wise*. The Work Foundation: London

- Explore what type of support would be appropriate to **help the high proportion of self-employed people who already have multiple long-term conditions**.
- Consider the development of models that support a staged return to work, such as **part-time sick pay**.

6.2.5 Department of Education/BEIS

Though not the main focus of our study, a concerning finding related to the reduced likelihood that a young person with multiple conditions would be in education compared to their peers with single or no conditions. The barriers to accessing and remaining in education is a highly relevant area and one which we recommend mining the data further.

We believe that the departments for education and for business should:

- Take active steps to address the **disproportionately low rates of young people with multiple LTCs in full-time education**[116]**; and,**
- Ensure that a **range of education and vocational opportunities are open to young people with multiple LTCs** – for example, exploring how the proposed apprenticeship levy might be used to encourage vocational employment.

This project also highlights potential for **further research**, the data that we have collected through our survey, which is linked to the wider HSE data through unique identifiers, provides potential for further exploration. More generally, exploring the patterns of the onset of co-morbid conditions, and how they relate to work, would be of considerable use in developing interventions and approaches which reduce the likelihood comorbidity during working age. A longitudinal study looking at the pathways through health and work would be valuable.

Having multiple health conditions is not necessarily a barrier to work – it is important that this is recognised, and that treatment and support is available, inside and outside of work, which allows people to reach their full potential regardless of health barriers. Of course prevention is better than cure – and we need to continue efforts, discussed by The Work Foundation and others, to minimise the harm that work can have in health – in particular through improving work quality, and broader health promotion activities to prevent the onset of a number of chronic conditions. The impact of health conditions on work, and on quality of life, can be further minimised by effective early intervention strategies – ensuring that people are accessing the support they need to help them stay in work sooner.

(116) Bajorek, Z., Donnaloja, V., & McEnhill, L. (2016) *Don't stop me now: supporting young people with chronic conditions from education to employment*. The Work Foundation: London

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