



BOHRF

**Workplace interventions for people
with common mental health problems:
Evidence review and recommendations**

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WORKPLACE INTERVENTIONS FOR PEOPLE WITH COMMON MENTAL HEALTH PROBLEMS

September 2005

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PREFACE

The British Occupational Health Research Foundation (BOHRF) is a non-profit, grant-making charity established in 1991 to contribute to the best possible physical and mental well-being of workers. Its mission is:

Bringing employers and researchers together to produce robust science and evidence-based work of practical value whose application will contribute to the right of people at work to be healthy, motivated and at work.

This review of workplace interventions for people with mild to moderate mental ill health – or common mental health problems – reflects BOHRF’s mission and purpose. It builds on earlier work (Carter 1999) that reviewed the literature on mental health and employment to identify evidence-based interventions that support the effective management of common mental health problems at work and also gaps in the literature that could be filled by future studies.

The current BOHRF project was designed to provide evidence-based answers, for the first time, on key questions related to the largest, and growing, cause of work-related ill health absence from work – mental ill health. The focus of the review is the management of mental disorder and mental distress in the work environment, excluding severe mental ill health.

The scope of the work encompasses an evaluation of published evidence, following a literature search of relevant papers published worldwide.

Brian Kazer
Chief Executive

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Common mental health problems are widespread amongst working people. 15 – 25% of the general population has a common mental health problem at any one time. The cost, both to the lives of individuals, and to the functioning of workplaces, is vast.

This systematic review is designed to provide evidence-based answers on key questions related to mental ill health in the workplace. It is intended to assist managers, occupational health professionals and other interested parties in making management decisions and offering advice in the confidence that they are based on the most robust evidence available. Where evidence does not exist or is not robust recommendations are made for further research in areas that appear promising or of interest.

Research published worldwide in English was searched for papers relevant to the scope of the review. A total of 111 papers were critically appraised by the research working group; a further 59 papers being reviewed only by the Scientific Secretary and Senior Researcher as context papers. These were distilled from over 15,000 references found from the literature search, and from a little over 200 research papers which initially appeared relevant to the scope of the review.

We have defined common mental health problems as those that:-

- occur most frequently and are more prevalent;
- are mostly successfully treated in primary rather than secondary care settings;
- are least disabling in terms of stigmatising attitudes and discriminatory behaviour.

We focused broadly on themes of prevention, retention and rehabilitation. Our main research questions were:-

- What is the evidence for preventative programmes at work and what are the conditions under which they are most effective?
- For those employees identified as at risk, what interventions most effectively enable them to remain at work?
- For those employees who have had periods of mental ill health related sickness, what interventions most effectively support their rehabilitation and return to work?

We found support for the following conclusions.

- Amongst employees who have not manifested with common mental health problems or who are not at high risk, there is moderate evidence from five research papers to suggest that a range of stress management interventions can have a beneficial and practical impact.
- These interventions also provide employees with a range of useful skills that can be exploited to their own and their organisation's wider benefit.
- The extent to which any of these interventions prevent common mental health problems remains unclear.
- Moderate evidence, based on four studies, was found that multimodal approaches (approaches using more than one technique or method) was more effective than using a single method
- Limited evidence, from two papers, was found that focus on individuals rather than the organization as a whole produced better results; although there was also limited evidence from three other papers that changing the work environment can be effective in reducing common mental health problems

Retention at work

- Amongst employees deemed to be at risk, either through their job role or who have been assessed as at risk, there was strong evidence from eight studies demonstrating that individual rather than organisational approaches to managing common mental health problems are most likely to be effective. The most effective programmes focused on personal support, individual social skills and coping skills training. The most long lasting effects were from multimodal programmes.
- However it is imperative that those populations are identified accurately so that interventions can be correctly targeted and applied and the anticipated benefits of retaining key skills in organisations can be realised.

Rehabilitation

- For people already experiencing common mental health problems at work, there was strong evidence from four studies demonstrating that, the most effective approach is brief (up to 8 weeks) of individual therapy, especially cognitive behavioural in nature (CBT).
- The intervention seems to be effective whether delivered face-to-face or via computer-aided software, the latter finding being based on one study. The computer-aided software approach would ideally benefit from a corroborative study. This approach appears promising, although its effectiveness has currently only been demonstrated only in the short term (one month)
- A stronger effect is associated with employees in high-control jobs.

INTRODUCTION

This review is designed to provide evidence-based answers on key questions related to mental ill health in the workplace. It is intended to assist managers, occupational health professionals and other interested parties in making management decisions and offering advice in the confidence that they are based on the most robust evidence available. Where evidence does not exist or is not robust we make recommendations for further research in areas that appear promising or of interest.

Although this review is pertinent primarily within a UK context, the report also has international validity, based as it is on worldwide research published in English.

The principal research questions focus on what, in the view of our multi-disciplinary Research Working Group (**Appendix A**), employers and occupational health professionals might want to know and might do to prevent or limit mental ill health in their workplace, minimise sickness absence and enable workers who experience mental ill health to remain in work, restored to full productivity.

We searched for evidence that described an effective range of interventions to address common mental health problems in an occupational setting. We focused broadly on themes of prevention, retention and rehabilitation. Our main research questions were:-

- What is the evidence for preventative programmes at work and what are the conditions under which they are most effective?
- For those employees identified as at risk, what interventions most effectively enable them to remain at work?
- For those employees who have had periods of mental ill health related sickness, what interventions most effectively support their rehabilitation and return to work?

We did not deal with broader questions about job stress and healthy working environments because our focus was on the problems of mental ill health for employees and employers. We recognise that these are important issues that can have consequences for the mental health of workers, but we acknowledge that this ground has been well covered by others. (HSE 2004)

We have excluded studies referring only to severe mental illness i.e. any study which appears to take as its subjects people with a diagnosis of psychosis, schizophrenia or bi-polar disorder and/or who meet the criteria in the **National Service Framework for Mental Health** (Department of Health 1999). This in no way implies that people with severe mental health problems are necessarily unemployed or unemployable. Indeed there is evidence that given the right support 50% or more can do regular, paid competitive work (RCP 2002) and some hold highly responsible senior positions. However these disorders are relatively uncommon among the general population and most employers will have none or a tiny percentage as employees.

We also recognise, however, that even if all health and safety issues are handled in an optimal way, employees may still develop mental health problems. Any resulting illness will have to be managed by a wide range of people as well as by the individual themselves.

Mental ill health is a contested concept and the language used to describe it varies widely. We discuss some of these issues in the next section. For the purposes of this review, we have chosen to use the term *common mental health problems*, rather than *mild to moderate mental ill health*, as being the clearest and most useful for the range of audiences for this review.

We have defined common mental health problems as those that:-

- occur most frequently;
- are mostly successfully treated in primary care settings;
- are least disabling in terms of public reaction.

People experiencing common mental health problems, as well as their families, physicians and employers, are most likely to use terms such as anxiety or depression (nerves) to articulate this set of health problems. None of this terminology applies to major depressive illnesses.

The number of different people who have a part to play in the management and recovery of the person who is mentally ill is reflected in the review strategy as well as the range of academic, clinical and other specialist backgrounds represented on the Research Working Group. This included researchers, occupational health physicians, psychiatrists, GPs, managers, HR practitioners, disability rights specialists and rehabilitation providers.

By inviting such a wide and differently skilled group we added to the challenges of reaching agreement about the relevance and quality of the evidence we were looking at, but we gained a very practical perspective on what different groups would look for in a successful intervention or strategy.

BACKGROUND

This section provides a backdrop for the entire review. We set out a range of models and definitions that describe common mental health problems in an occupational setting. We also explore the dimensions of the problem of mental health at work. We provide a perspective on incidence of mental ill health and employment related costs.

Mental ill health can be described in a number of different ways and so the review considers a variety of perspectives and the context in which decisions are made. We endeavour to unpick a number of salient questions, such as what constitutes mild to moderate mental ill health in the workplace, whether it is helpful to think in diagnostic terms and what conceptual models exist for addressing mental ill health in an occupational setting. We also undertake an exploration of the scale of the problem of mental ill health at work and attempt to answer the question of who is most at risk and why. We begin with an assessment of the policy and statutory framework relevant to mental health at work.

Mental health at work: Policy and statute

The British policy arena has witnessed a succession of framework documents on mental health in the four nations since 1999. (Department of Health 1999, Scottish Executive 2001, Welsh Assembly 2002, Department of Health & Social Services Northern Ireland 2003) Health and social services in each of the four nations are required to promote mental health and reduce the social exclusion associated with mental health problems. Exclusion from employment associated with mental health problems is identified as a significant factor. More recently two reports from the Social Exclusion Unit (2004a, 2004b) clearly identify the key role that employment plays in the overall health of people with mental health problems.

Mental health services have been at the forefront of addressing these issues. Guidance issued by the Department of Health (2002) aimed to provide advice and direction to NHS employers on the retention and future employment of people who in the past had experienced mental health problems or might currently be doing so. Some services already provide examples of good employment practice for people with mental health problems. (Perkins et al 2000) Many occupational health services have also introduced policies to support workers with mental health problems.

Within the statutory framework, both the Health and Safety at Work Act (1974) and the Management of Health and Safety at Work Regulations (1999) have created the structure within which mental health problems at work can be prevented, ameliorated or minimised. The HSW Act requires employers to create a working environment that is, as far as is reasonably practicable, safe and without risks to health. The Management Regulations place a 'duty of care' on employers to assess the nature and scale of risks to health in the workplace and risks to health include risks to mental health.

The Disability Discrimination Act 1995 (DDA) creates a duty on employers and makes discrimination against those disabled by mental health problems illegal. The DDA applies to all employment matters including recruitment, training, performance management, protection from harassment, promotion and dismissal. It includes within the general term *disabled*, people who experience a certain severity of mental ill health. A medical diagnosis is currently required for protection under the Act, as is a recognized set of symptoms. From December

2005 this will no longer be the case and a Regulation to the DDA will eliminate these requirements.

However the ability of a person to manage daily life week in week out, year in year out is crucial and their disability must have a substantial impact on day-to-day activities in one of the seven modalities set out in the Act . The Act therefore includes people with relatively low level but enduring depression who may not meet the criteria for severe mental illness. The Employers Forum on Disability (EFD) recommends its members to treat all employees with mental health problems as though they are potentially eligible for protection under the Disability Discriminations Act (EFD 2005) and therefore entitled to reasonable adjustments in the working environment to enable them to remain in work.

Defining mental health

This review focuses on mild to moderate mental ill health – or common mental health problems. However there are no commonly held definitions of mild to moderate mental ill health across the literature . Conversely, there would seem to be greater agreement when it comes to describing severe mental illness. For example, medical diagnoses as set out in the various diagnostic manuals – DSMIV, ICD 10 - are used by doctors in deciding which treatments to prescribe based on a range of demonstrable indicators of illness.

But some people who experience mental ill health sometimes feel uncomfortable with terms such as illness and diagnosis and the language used to describe mental ill health is also contested. Amongst people who use mental health services and their carers for instance, the term *sufferers* arouses the ire of some because of its implications of passivity and being a victim. (Champ 1999)

Some mental health service users reject the term *disabled* when applied to them because of its association in the public mind with stigma and dependency linked to impairment. Others argue that the *social model of disability* which focuses on the barriers erected by society rather than individual pathology is helpful in that it reflects many of their experiences of discrimination and exclusion. (Sayce 2000 & 2003)

One clear distinction between severe mental health problems as defined in the **National Service Framework for Mental Health** (Department of Health 1999) and other forms of mental ill health is in their incidence and prevalence. Conditions such as depression and anxiety are relatively common, as we discuss further on in this section, while disorders such as psychosis, personality disorder, endogenous depression or bi-polar affective disorder (manic depression) are relatively uncommon. Hence the term *common mental health problems* is a way of describing all those conditions that are not normally treated within secondary services.

The International Labour Office (ILO) (**Appendix E**) makes a distinction between mental health problems and mental illness. In their view illness occurs when mental health problems become clinical cases i.e. when they acquire a diagnosis and require professional intervention. This is also referred to as *clinical caseness*. We did not always find this distinction useful in deciding which studies to include or exclude because some studies equate common mental health problems or common mental disorders with a level of clinical *caseness*.

For the purposes of this review we have therefore treated the term *common mental health problems* as synonymous with *mild to moderate mental illness* when referring to any form of mental distress or disorder which has acquired clinical *caseness*, excluding those which meet the criteria for severe mental illness as defined in the **National Service Framework for Mental Health** (Department of Health 1999) (**Appendix F**).

We have elected to use the term *common mental health problems* in preference to *mild to moderate mental ill health* because we think it is more acceptable and understandable to the greater part of our audience and makes no presumptions about degree of disability.

In essence, the language used to describe mental distress is important. Any mental health problem for which help is sought is a serious matter for the person seeking the help. Not infrequently disclosure is associated with a perception of risk associated with the stigma that surrounds mental health issues. Sensitivity to these issues is essential if employers and employees are to maintain a trusting relationship in difficult times.

We have defined common mental health problems as those that:-

- occur most frequently and are more prevalent;
- are mostly successfully treated in primary rather than secondary care settings;
- are least disabling in terms of stigmatising attitudes and discriminatory behaviour.

What about stress?

The term *stress* has in recent years taken on some of the characteristics of a diagnosis and has even appeared on medical certificates. Some commentators have described stress as a mediating hypothetical construct rather than an outcome measure of psychological ill health. (Michie and Williams 2003) For the purposes of this review we have made a distinction between stress and common mental health problems and we have not used job stress or job burnout as synonyms for common mental health problems.

Stress can be conceptualized as a process involving an interaction between the individual and the environment that includes a stimulus or stressor, intervening variables and a response. (Lazarus 1966) Stress is not necessarily negative and some stress keeps us motivated and alert. However, too much stress can trigger problems with mental and physical health, particularly over a prolonged period of time.

Job stress is defined by the ILO as the harmful physical and emotional response that occurs when the requirements of the job do not match the capabilities, resources, or needs of the worker (ILO 2000). A simpler definition is used by the Health and Safety Executive (HSE) who define job stress or *work-related stress* as an adverse reaction to excessive pressures or other demands, thus covering both physical and psychological reactions and placing the cause squarely within the workplace (HSE 2001).

Job stress can lead to poor health and even injury. Long-term exposure to job stress has been linked to an increased risk of musculoskeletal disorders and depression as well as syndromes such as burnout, and may contribute to a range of other debilitating diseases. Stressful working conditions also may interfere with an employee's ability to work safely, contributing to work injuries and illnesses. The ILO reports that in the workplace of the 1990s the most highly ranked and frequently reported organisational stressors were potential job loss, technological innovation, change, and ineffective top management. At the work unit level, work overload, poor supervision, and inadequate training were the top-ranking stressors.

The crucial distinction between *job stress* and *stress* focuses on prevention. Removing or ameliorating stressors in the workplace is associated with alleviation of the stress, whereas with mental ill health this may not be the case.

There is an extensive literature on preventing job stress and promoting healthy workplaces. In the UK the Health and Safety Executive has published a review of the evidence on good practice in relation to nine key work-related stressors (HSE 2002) and guidance for employers (HSE 2004). Clearly in so far as exposure to job related stressors can trigger mental health problems, studies investigating employer action to redesign work environments in ways that are intended to reduce the incidence of mental health problems in the workforce is of interest to this review.

Prevalence of common mental health problems

In the UK the Office of National Statistics *Psychiatric Morbidity Survey* (2000) estimated that one in six of the general population has common mental health problems at any one time. (Singleton et al 2001) Due to the fluctuating nature of mental health conditions however, the annual proportion is estimated by some to be as high as one in four. (Goldberg and Huxley 1992)

In contrast only one in two hundred adults experience *probable psychotic disorder* in any given year and only one in one hundred of the population have schizophrenia at some point in their lifetime. (Singleton op cit) A similar number are estimated to experience bi-polar disorder during their lives. (Bird 1999)

Mental health problems are not exclusive to any specific group, they are found in people of all regions, all countries and all societies. About 450 million people worldwide are estimated to suffer from mental disorders, and one person in four will develop one or more mental or behavioural disorders during their lifetime. (WHO 2001)

A review of the published evidence on links between social position and common mental disorders found that prevalence was more marked amongst socially disadvantaged populations. More consistent associations were with unemployment, less education and low income or material standard of living. Occupational social class was the least consistent marker. (Fryers et al 2003)

Mental and neurological disorders account for 13% of the total Disability Adjusted Life Years (DALYs) lost due to all diseases and injuries in the world (WHO 2004). Five of the ten leading

causes of disability worldwide are psychiatric conditions, including depression, schizophrenia and obsessive compulsive disorder. (Murray & Lopez 1997)

WHO estimates that by the year 2020 neuro-psychiatric conditions will account for 15% of disability worldwide, with depression alone accounting for 5.7% of DALYs. Mental health problems are therefore widespread and apparently becoming more significant in their impact on peoples' lives worldwide.

Mental health problems at work: prevalence and trends

A review commissioned by BOHRF on prevalence of mental ill health in the UK working population (Carter 1999) concluded that although the true scale could not be reliably determined, frequency was nevertheless "...*not insignificant*". For example, among full time workers diagnoses of anxiety and depression were found in 10.2% of the full time workforce with a broader measure of distress (GHQ 30 at 5+) in 24.8%.

Mixed anxiety and depression disorder was the most frequent problem in both men and women at work and was more prevalent in women than men across all Standard Occupational Classifications (SOC). (Stansfield et al 2003)

By contrast psychosis was found in only 0.2% of the workforce. Even a cumulative estimate including other diagnoses such as phobias and obsessive-compulsive disorders resulted in an incidence of these more severe conditions in only about 2% of the workforce. In other words around 30% of employees will have *caseness* as defined by GHQ, while more serious mental ill health may be present in only 1-3% of employees.

The Department of Health (1996) and the Confederation of British Industry (1999) using different definitions estimate that between 15 and 20% of employees will experience some form of mental health difficulty during their working lives, with depression representing the largest percentage of this problem. So in a company of 1,000 employees, between 200 to 300 people may suffer from depression and anxiety over the course of a thirty-year working life and one suicide may occur per decade. (DoH 1996)

Mental ill health at work is also not insignificant in other countries. A multi-national study of mental health in the workplace has been carried out by the International Labour Organisation, comparing the situation in Finland, Germany, Poland, the United Kingdom and the United States (ILO 2000). The rationale for the choice of countries was that they represent different stages of economic development and different welfare systems.

In all five countries, the prevalence of mental health problems amongst the workforce and the costs related to them has risen during the past decade. The increase in depression, in particular, was considered by the ILO to be alarming.

However, as the Finnish and German reviews note, the figures do not necessarily reflect an absolute increase. Changes in the diagnostic system, more open attitudes, and improved diagnoses and recognition may contribute to the increase in diagnosed mental health problems.

For example a review of the differences in rates of common mental health problems in different occupational groups between 1993 and 2000 concludes that their prevalence in the workforce

has remained very stable. (Stansfield et al 2003) There are rises in some occupations such as managers/administrators, secretarial/clerical occupations and clerks – possibly reflecting deteriorating working conditions in these occupations. However looking at those who drop out of the UK labour market through ill health, the rise in the numbers citing mental health problems is clear, although the causes are less so.

The proportion of the working age population reporting a limiting longstanding illness in the UK shows a modest rise over the past 20 years from 15 to 19%. (Waddell and Burton 2004) However since 1979, the number of people claiming Incapacity Benefit (previously Invalidity Benefit) has more than trebled. Moreover the proportion of Incapacity Benefit recipients whose primary diagnosis is mental or behavioural disorder continues to rise.

In November 2003 the proportion reached 44%, with musculo-skeletal disorders down at 26% as the next most common group of diagnoses. If people with severe medical conditions - so severe that on the advice of their doctor they are exempt from even the assessment process - are removed from the equation, the proportion of the total with common mental health problems is 36%, more than musculo-skeletal (20%) and cardio-respiratory disorders (10%) combined (**Labour Force Survey** cited by Waddell and Burton op cit).

It is however far from clear that this apparent rise in the numbers of people leaving the labour market due to mental health problems is due to an increase in mental ill health. In fact general health indices and those relating to mental ill health in the general population have remained comparatively static. Rather we may be witnessing a reclassification of less specific disorders with psycho-social dimensions or other issues by patients, doctors or both.

Building Capacity for Work (DWP 2004) makes a similar point:

“... statistics show that, although there has been no worsening of health in the UK since the early 1980s, labour market participation and sickness absence remains an issue.”

It is not possible to reach any firm conclusions about recent trends in the levels of common mental health problems in the workforce. There is no evidence of an epidemic of mental ill health. However there does seem to be a greater willingness to focus on psychological rather than physical distress when explaining sickness absence or claiming welfare benefits.

Which jobs present most risk?

A review of the international literature and secondary analysis of the ONS Psychiatric Morbidity Survey (Stansfield et al 2003) shows that certain occupations are at greater risk of mental ill health than others. Using SOCs major groups at risk include clerical, secretarial, administrative support workers, machine operators, social workers, industrial workers, sales people and certain professional groups.

British national surveys suggest that teachers, nurses, social workers, probation officers, police officers, the armed forces and medical practitioners have a higher incidence of work-related mental illness.

Using combined data from the 1993 and 2000 surveys, sub-major SOCs with a higher risk included managers and administrators (especially general managers in government and large

organisations), teaching professionals, other associate professionals, clerical and secretarial, other sales and personal services occupations. Occupations with a lower prevalence than the overall prevalence include craft and related occupations, science and engineering professionals, personal services professionals and interestingly – given the international literature – plant and machine operatives. However the authors advise caution in drawing conclusions because of great variety within these occupations.

Reasons suggested for high rates of mental disorder in particular occupations are associated with high levels of job demand combined with lack of long-term security and particularly high emotional demands in working with people.

Conversely, low rates of mental disorder may be accounted for by high levels of skill discretion, good general working conditions and the social desirability of not reporting psychological symptoms.

The cost of mental health problems at work

Estimates of the cost of mental health problems at work for employers, and to the taxpayer generally, tend to vary widely and to be conflated with other associated costs. In the member states of the European Union the cost of mental health problems is estimated to be on average 3 to 4 % of GNP, including cost of treatment and losses associated with sickness absence and low productivity.

In the USA, the estimates for national spending on depression range from \$30 to \$44 billion, with approximately 200 million days lost from work each year (ILO 2000). A Canadian study estimated that 8% of the Ontario workforce would experience more than two months of lost or decreased productivity days each year associated with mental health problems. (Dewa and Lin 2000)

In the UK it has been estimated that 91 million working days are lost each year due to mental health difficulties (Gray 1999). The Health and Safety Executive estimated that mental health problems are the second largest category of occupational ill health after musculo-skeletal disorders (HSE 1999).

All commentators are agreed that the work-related costs of mental health problems in the UK are high. Research by the Mental Health Foundation (MHF 2000) indicated that the total cost of mental health problems in Britain is an estimated £32 billion and that more than a third of the total estimated cost (£12 billion) is attributed to lost employment and productivity.

More recent work by the Sainsbury Centre for Mental Health (SCMH 2004) puts the combined costs of sickness absence, non-employment, effects on unpaid work and output losses from premature mortality at £23.1 billion in 2002/3.

The problem with such extrapolated data is that they are often compiled for lobbying purposes and therefore tend to broaden the areas of cost in ways that make comparisons between figures difficult. Whatever formulae are used to calculate costs however, there is consensus that the true cost is “...*not insignificant*”. (Carter 1999)

Mental health problems and sickness absence

There is a strong association between mental health problems and sickness absence. Half of those employees with psychological disorders are reported to have taken time off work in the previous year, compared with a quarter of all employees. (Stansfield et al 2003) Other reviews have demonstrated similar patterns of excess sickness absence, with depression being the major reason cited. (Carter 1999) However despite the strong association between mental health problems and sickness absence, occupational differences in psychiatric morbidity cannot account for occupational differences in sickness absence. (Stansfield et al 2003, Carter 1999)

Workers in the public sector seem to be most at risk of long-term sickness absence, although generous policies for continuation of salary may be a factor. In the Civil Service workers in lower grades take more sick leave than those in higher grades. Women take more time off than men. Workers in more obviously stressful jobs such as the prison service, health care and social work, take most sick leave. Sickness absence in education is very low but this may not necessarily reflect lower levels of job stress, anxiety and depression among teachers. (Stansfield op cit).

Long-term absence, particularly stress related, appears to have worsened in recent years. (Henderson et al 2005) The percentage of individuals experiencing spells of long term (21+day) absence has increased from 5% in 2001 to 5.7% in 2003, i.e. 44% of all days lost. By contrast, recorded short-term absence is lower in the public sector, though the very low civil service statistics may reflect significant under-recording. (HSE 2004).

Clearly the decision to take time off work involves complex social and economic factors, as well as personal feelings of wellness or illness. Low levels of time off sick are also not necessarily a good thing for an individual employee. Cultural reluctance to admit to mental health problems for fear of stigma or loss of self respect can lead to an employee waiting until relationships in the workplace have become too difficult to ask for help, thus precipitating more serious problems and the possibility of permanent job loss. (Thomas et al 2003)

Conceptual approaches to the links between common mental health problems and work

On balance, work is linked to good health rather than ill health and is good for psychological well-being. There is the probability that some of the demands can produce healthy energising responses in certain contexts with certain individuals. Further, most episodes of the common mental health conditions settle quickly and people either remain at or get back to work quickly leaving no permanent impairment.

However, as we have described in this section, common mental health problems are widespread amongst the working population. To what extent does current theory address the question of whether relevant interventions should focus on features of the work environment, the situation of the individual, or a combination of both?

A review of current theory on the associations between work features and psychosocial (ill) health concluded that despite a plethora of evidence, much of it was of poor quality and did not allow for conclusions to be drawn about which psychological features of work were most harmful to mental health. (Briner 2004)

Typical stressors have been identified by a range of commentators: the HSE (Rick 2002); Warr's "Vitamins" (Warr 1987); more specific stress theories such as burnout (Maslach et al 2001); job demand – job control (Karasek 1979); effort-reward imbalance (Siegrist 1998); violation of the psychological contract (Rousseau 1995); social status in hierarchy (e.g. Smith et al 1990). However there are currently no clear ways of ordering these stressors in ways that are helpful for designing interventions.

Rather than look for a single theoretical framework to explain how all psychosocial features of work impact on all types of outcomes, there has been a suggestion that consideration be given to applying more specific approaches to specific contexts. (Briner op cit) This suggestion is coherent with what is known about certain occupations carrying greater and increasing risk of common mental health problems. In other words, we may need different approaches and different styles of intervention to deal with the particular features of work environments.

However, as we have already noted, common mental health problems stem from a multiplicity of causes. They may be triggered by work, but they may also be triggered by life events that have nothing to do with work. Duration and severity of mental health problems are also determined by a number of factors other than the immediate trigger. As a consequence, there is a need to look at the situation of the individual experiencing mental health problems, regardless of their cause, as well as the characteristics of the workplace.

The biopsychosocial model of (ill) health and well-being plainly articulates this conceptual approach. (Waddell and Burton 2004) The model has been applied for the most part to common chronic health problems such as back pain or cardio-respiratory conditions but also has relevance to common mental health problems. The model gives equal weight, both to the contribution of an individual's attitude towards his or her condition and the social relationships within which they exist, and to the specific symptoms of the condition. Such an approach refocuses the emphasis away from asking *Why it is that some people are disabled by conditions that other people seem to recover from with no lasting effect?*, towards asking instead *Why do some people fail to recover as expected?* Asking the question in this way relocates the emphasis onto addressing the barriers to return to work and away from a focus on individual deficiencies.

This conceptual model is constructive for two reasons. First it is coherent with what we know about the complexity of causality and the variability of individual and social responses. Hence there is no need to assume a particular causality or pathway for a given individual. The causes are less important than the physical, psychological and social barriers to recovery, which can be addressed in all their complexity over time. In other words, it is possible to offer mood-enhancing medication at the same time as addressing the personal beliefs of an individual and the level of support and understanding in their social environment.

Second, the model accommodates and expands on a social model of disability. It addresses not only the barriers erected in the social environment, but also the personal disempowerment and loss of self-efficacy experienced by people who get depressed and anxious, whether or not they acknowledge any degree of disability. In this model the absolute distinction between severe and enduring mental health problems and common mental health problems is less sharply defined. Mental health problems are on a continuum with the overwhelming majority at the less severe end. There remains open the possibility of movement over time in both directions – towards long term impairment and disability but more importantly, towards recovery.

SUMMARY OF KEY POINTS

- The focus of this review is the management of common mental health problems at work.
- We have defined common mental health problems as those that:-
 - occur most frequently and are more prevalent;
 - are mostly successfully treated in primary rather than secondary care settings;
 - are least disabling in terms of stigmatising attitudes and discriminatory behaviour.
- Common mental health problems affect between one in four and one in six of the working population, whereas severe mental health problems affect only between 1-3% of the working population.
- Prevalence of common mental disorders is more marked amongst socially disadvantaged populations and there are more consistent associations with unemployment, less education and low income or material standard of living.
- There is a policy and statutory framework that supports workplace action on common mental health problems.
- The costs of mental health problems at work are significant, both for individuals and organisations, but not easily quantifiable
- The particular characteristics of certain jobs or professions may be more strongly linked to mental health problems than those of other jobs or professions.
- There is little evidence to suggest that the incidence and prevalence of common mental health problems in the working population is on the increase.
- There seems to be an increased focus on psychological distress as a reason for leaving the workforce.
- The biopsychosocial model of (ill) health is helpful in understanding the complex interactions between the individual's mental health, attitudes to work and their social environment and focuses attention on the barriers to normal recovery and return to work.

EVIDENCE REVIEW METHODS

The methodology of the review may best be summarised as systematic searching plus rating of the strength of evidence plus a narrative overview.

The literature was searched systematically to April 2004 using a variety of standard methods. (**APPENDIX B:** Inclusion and exclusion criteria; **Appendix C:** Search history)

Databases searched were PsychInfo, NIOSHTIC, CISDOC, MEDLINE, CINAHL, Sociofile, ASSIA, IBSS, Cochrane, Business Source Premier, Emerald, PubMed and EMBASE.

We did not limit our data pool to experimental studies only; we included a range of studies that were relevant to our research questions i.e. cohort studies, case studies, participative action research and non-intervention studies.

We also did not omit studies that described non-work based interventions; our main criteria were that the study passed the critical appraisal process and that employment was among the outcome measures. As a consequence there are several studies where the intervention was targeted at practitioners such as primary care physicians, but the outcomes were focused on return to work or remaining in employment for people with common mental health problems.

Electronic searches produced more than 15000 references. Subsidiary searches included the Chartered Management Institute library database (200 references) and the Faculty of Occupational Medicine website (6 references).

The study selection is shown diagrammatically in Figure 1 on page 20. The process used is summarised as follows;

More than 200 titles and abstracts were considered. Abstracts were reviewed independently by the Senior Researcher and Scientific Secretary. Members of the Research Working Group (RWG) subsequently reviewed identified abstracts to select full papers for review.

144 of these papers were retrieved. 59 of these papers informed the context of the review and were read only by the Scientific Secretary and the Senior Researcher.

The remaining 85 papers were critically appraised by RWG members and assessed for methodological quality, using a pro-forma adapted from that used by CASP (Critical Appraisal Skills Programme) for this review. (**Appendix D**)

RWG members identified 68 follow-on references for consideration, drawn from the bibliographies of the first tranche of studies. References were reviewed by the Scientific Secretary and the Senior Researcher.

48 of these studies were not followed up for a variety of reasons, i.e. a focus on severe and enduring mental ill health, not relevant to workplace outcomes, not relevant to mental health, already reviewed in the first tranche and included in a meta-analysis that had already been reviewed.

RWG members reviewed and critically appraised a total of 20 follow-on papers.

External peer reviewers also identified an additional six studies for consideration and these went through the critical appraisal process.

19 experimental studies were included dealing with various aspects of management relevant to occupational health guidelines and their main findings are listed in **Table I**.

12 non-experimental and narrative studies were included and their main conclusions are listed in **Table II**.

Evidence rating

We utilised the revised Scottish Intercollegiate Guidelines Network (SIGN) grading system (2000) to grade each identified paper. We graded the strength of evidence for each statement using the Royal College of General Practitioners (RCGP) three star system (1995) as modified in the Swedish Council on Technology Assessment in Health Care report for scientific studies and the BOHRF Occupational Health Guidelines for the Management of Low Back Pain at Work.

(RCGP) three star system

*** Strong evidence – provided by generally consistent findings in multiple, high quality scientific studies.

** Moderate evidence – provided by generally consistent findings in fewer, smaller or lower quality scientific studies.

* Limited or contradictory evidence – provided by one scientific study or inconsistent findings in multiple scientific or narrative studies.

- No scientific evidence – based on theoretical considerations

Revised SIGN grading system : Levels of evidence

1++	High quality meta analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias
1+	Well conducted meta analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias
1-	Meta analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias
2++	High quality systematic reviews of case-control or cohort or studies High quality case-control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal
2+	Well conducted case control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal
2-	Case control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal
3	Non-analytic studies, e.g. case reports, case series
4	Expert opinion

THEORETICAL FRAMEWORK

Across the field of generic health promotion and risk reduction a consensus has emerged that emphasis needs to be placed on programmes which have been conceptualised along a continuum, with promotion of wellness at one extreme and interventions for well-established problems at the other. (Rae-Grant 1994)

The three levels of prevention along this continuum are:-

universal interventions for an entire working population, e.g. studies that address the nature of a workplace and elements within it that might compromise employees' mental health and well-being, i.e. interventions to alter job characteristics associated with stress, anxiety, lack of well being - high work loads, anti-social hours etc.

selective interventions for those groups deemed to be high risk, e.g. employees in certain occupations, programmes to alleviate or help employees manage stress, workplace counselling or schemes such as Employee Assistance Programmes (EAPs).

indicated interventions for individuals or groups that show early signs of problems, the aim being prevention of further problems e.g. programmes or interventions that seek to minimise existing identified mental health problems, or to reduce the severity or longevity of symptoms, workplace counselling or schemes such as Employee Assistance Programmes (EAPs), adjustments for people with chronic or recurring conditions, to manage existing disorders or distress, case management linking treating physicians with management or line management behaviour to support employees presenting with common mental health problems.

Universal and selective approaches are proactive whereas indicated ones are reactive. (Nelson et al 1999)

Workplace interventions for people with common mental health problems, as we have defined them, can reside at all of these levels. It sometimes proved difficult to determine whether studies included people with severe or endogenous depression. As a consequence we have assumed that, unless there is specific reference to exclusively severe or enduring depression, the study falls within the range of common mental health problems and therefore merits inclusion. Interventions for people with severe mental health problems were excluded from this review.

Figure 1

Flow Chart for Study Selection	
Total abstracts identified after de-duplication n= 204	
Abstracts relevant to key questions n=144	
Papers relevant to key questions n=85	
Final number of papers including follow-on references + peer reviewer suggestions n=111	
Papers meeting critical appraisal criteria for inclusion in evidence folder n=31	

EVIDENCE REVIEW

The main purpose of this review was to identify evidence-based practice of workplace interventions for people with common mental health problems. Given the contested nature of definitions of common mental health problems, as well as the broad range of professionals that have a role to play in the management of employees' mental health, the identified studies describe a range of interventions and programmes.

Our main research questions were:-

- What is the evidence for preventative programmes at work and what are the conditions under which they are most effective?
- For those employees identified as at risk, what interventions most effectively enable them to remain at work?
- For those employees who have had periods of mental ill health related sickness, what interventions most effectively support their rehabilitation and return to work?

We look at each of these topics in turn and the studies identified that provided answers, in part or full, to these questions. Boundaries between these themes, for example prevention and retention, or retention and rehabilitation, are not always clearly delineated. As a consequence findings from some of the included studies are utilised more than once in order to answer our research questions as comprehensively as possible.

What is the evidence for preventative programmes at work and what are the conditions under which they are most effective?

Prevention programmes that address common mental health problems at work are situated within a universal approach to health promotion. In other words, these programmes have been delivered in workplaces to avert possible future problems for the organization from mental health problems amongst employees, whether or not such problems have yet occurred.

Despite concerns about the conceptualization and use of the construct of stress, as discussed earlier (pp.9-10), it is clear from the included studies that a number of workplace interventions focus on stress reduction and management as a way of protecting the organization from the effect of mental health issues.

Stress management

** There was moderate evidence that stress management programmes in the workplace might have at best a modest or short-term impact on a range of variables associated with individual stress. (T I: Lakk & Arnetz 1997 – cited in Michie & Williams 2003; Zolnierczyk-Zreda 2002) (T II: Munz et al 2000, Reynolds et al 1993, Slaski & Cartwright 2003,)

The interventions comprised a range of different but complementary approaches. There was a focus on acquiring problem-solving skills, reducing negative coping styles, identifying potential stressors at work and developing strategies to minimize their impact and developing self-awareness in relation to stressors. Interventions utilized a mix of didactic learning, practice

of techniques and group discussion. All but one of the studies (Lakk & Arnetz 1997 – cited in Michie & Williams 2003) had samples comprised of volunteers.

Stress management: individual versus global approaches

* There was limited evidence that an individual versus a global approach to stress management was effective. (T I: Cecil & Foreman 1990) (T II: Jenkins & Calhoun 1991) Global approaches are characterised by provision of information alone or general group discussions, rather than training in the skills required to deal with perceived stress. Although in both these studies participants who received individual stress management training reported improvements in their self-reported stress, results should be treated with caution. Both studies had samples comprised of volunteers. One study (Jenkins & Calhoun 1991) had as its main outcome measure time spent managing stress, but no clarity whether there was any concomitant reduction in stress.

Stress management: multi-modal approaches

** There was moderate evidence that multi-modal approaches to stress management were effective. (T II: Barrios-Choplin et al 1997) (T I: Eriksen et al 2002, Groningsaeter et al 1992, Mimura & Griffiths 2003)

Multi-modal approaches are characterised by interventions that combine a range of methods such as education, role-play and exercise as well as the acquisition of particular skills such as muscle relaxation or improved communication skills. There was a reasonable sample size across the studies (n=1766), but almost half (n=860) were volunteers. It was not clear in every case which combination of different elements had the greatest effect, but one study (Eriksen et al 2002) reported the strongest effects for an integrated health programme combining exercise, cognitive factors and information. However their sample comprised volunteers, measures were self-report and there was a high attrition rate.

Organisational development approaches

* There was limited evidence that organisational development approaches to common mental health problems at work are effective. (T II: Golembiewski et al 1987) (T I: Smoot & Gonzales 1995 – cited in Michie & Williams 2003, Proctor et al 1998 – cited in Mimura & Griffiths 2003)

Organisational approaches are characterised by changes to the work environment, i.e. work practices, involvement of employees in assessing and ameliorating work practices that might be harmful to mental health, or skills training to improve working relations. The cumulative sample size in these studies was not large (n=180). Two studies involved the entire cohort of employees (Golembiewski et al 1987, Proctor et al 1998 – cited in Mimura & Griffiths 2003) and the third involved a matched control group. (Smoot & Gonzales 1995 – cited in Michie & Williams 2003) Outcome measures were very varied, including absence rates, perception of self-reported burnout and reduced sick leave. Only one study measured impact of the intervention on stress levels, and there was a non-significant positive effect. (Proctor et al 1998 – cited in Mimura & Griffiths 2003)

For those employees identified as at risk, what interventions most effectively enable them to remain at work?

Retention programmes that address common mental health problems at work are situated within selective approaches to health promotion. In other words, these programmes have been

delivered in workplaces where employees are deemed to be at risk because of the nature of their job role, or have already been assessed as at risk by means of a range of assessment tools.

As with discrete universal studies, it is clear from the studies included here that a number of workplace interventions focus on stress reduction and management as a way of bolstering the mental health of employees, thereby protecting the organization from the potentially damaging effect of mental health issues.

A range of different occupational groups have been identified as at high risk of mental health problems at work. As described earlier (p.12-13), these groups include clerical, secretarial, administrative support workers, machine operators, social workers, industrial workers, sales people and certain professional groups. British national surveys suggest that teachers, nurses, social workers, probation officers, police officers, the armed forces and medical practitioners have a higher incidence of work-related mental illness.

Reasons suggested for high rates of mental disorder in particular occupations are associated with high levels of job demand combined with lack of long-term security and particularly the high emotional demands of working with people.

Teachers

* There was limited evidence that individual versus groups approaches were effective in helping teachers manage or reduce their perceived stress levels. (T I: Cecil & Foreman 1990) (T II: Jenkins & Calhoun 1991)

Studies comprised small volunteer samples (n=124; n=54) and results were based on self-report measures. However targeted versus general approaches (individual training versus distribution of generic information or group discussions) appeared to have more of an impact.

Social Workers

- There was no scientific evidence that an online support group for social workers had any effect on helping them cope with job stress and burnout. (T II: Meier 2002)

The intervention, delivered in a feasibility study of Internet use to assist coping skills, utilised quantitative and qualitative data sampling as well as screening criteria for sample selection based on professional qualifications, commitment and stress measures utilising online support intervention (OSI). Sample size was very small (n=23) and there was no way of engaging with participants who chose to either remain silent or withdraw. It was unclear whether the study was trying to reduce job stress overall or just that associated with using technology.

Health Care professionals

*** There was strong evidence that individual approaches to stress reduction, management and prevention for a range of health care professionals was effective and was preferable to multi-modal approaches. Individually focused interventions seemed to be the most effective element of combined interventions. (T I: Iwi et al 1998, Heaney et al 1995; Lakk & Arnetz 1997; Smoot & Gonzales 1995 – all cited in Michie & Williams 2003, Mimura & Griffiths 2003, Rose et al 1998) (T II: Kagan et al 1995, Reynolds et al 1993)

Cumulative sample size across the combined studies was good (n=2787) and only one of the studies used volunteers. (Rose et al 1998) All the described interventions utilised

combinations of stress management techniques i.e. problem-solving, brief individual counselling, social support skills enhancement and improved communications, relaxation training and educational interventions on the nature of stress and possible coping strategies. Programmes that provided personal support and offered individual skills training were more effective in reducing depression levels and sickness absence. Interventions that utilised multi-modal approaches, i.e. combined physiological, education and individual skills training demonstrated the most long-lasting effect for those elements that provided interpersonal skills and stress management training. (Kagan et al 1995)

Employees with identified distress

* There was limited evidence of which interventions, targeted at employees who have been identified as at risk, either by their job role or by risk assessment, are most effective. (T I: Cooper & Sadri 1991, DeJong & Emmelkamp 2000, Pelletier et al 1999, Sallis et al 1987)

The cumulative sample size across the four studies was reasonable (n=592) and only one used volunteers. (Sallis et al 1987) Two of the studies seemed to indicate that individual approaches

(Cooper & Sadri 1991) or more personalised approaches (Pelletier et al 1999) were more likely to reduce employee distress. Of the two studies that used stress management approaches that combined education, skills acquisition and application of learning to work situations, neither could offer reliable conclusions. One study was mainly measuring the impact of professional versus para-professional trainers (DeJong & Emmelkamp 2000), whereas the other could not discern a greater effect for one mode of intervention over the others. (Sallis et al 1987)

Stress management: exercise

* There was limited evidence that physical exercise is effective either as prevention or cure for mental health problems in the workplace. (T I: Gronningsaeter et al 1992) (T II: Kiely & Hodgson 1990)

Although exercise has been identified as a non-pharmacologic intervention for depression, (Helliwell 2005) its use for common mental health problems at work is still limited. One of these studies compared physical exercise with psychological stress management and no treatment for the alleviation of job stress. (Gronningsaeter et al 1992) The authors concluded that a combined programme might have yielded better results. The case study (Kiely & Hodgson 1990) described an exercise programme for prison officers and concluded that there were positive benefits of exercise as both stress preventers and as a means of overcoming stress.

For those employees who have had periods of mental ill health related sickness, what interventions most effectively support their rehabilitation and return to work?

Rehabilitation programmes that address common mental health problems at work are situated within indicated approaches to health promotion. In other words, these interventions have been delivered for employees who have shown early signs of problems. The aim of such interventions is to prevent further problems or to reduce the severity or longevity of symptoms of mental health problems.

Employees with common mental health problems

*** There was strong evidence that cognitive behavioural (CBT) interventions are effective for employees with common mental health problems and they are more effective than other intervention types. (T I: Van der Klink 2001, Barkham & Shapiro 1990) Sample size was large (n=3736) and included employees with imminent or existing common mental health problems. Cognitive behavioural interventions were significantly more effective than relaxation techniques. Shorter programmes (<8 weeks) were more effective than programmes of longer duration. Effect was seen mainly in employees with high-control roles. For employees in low-control jobs, the priority seemed to be on increasing potential for enhanced control combined with CBT interventions.

Employees with job-related distress

** There was moderate evidence that brief therapeutic interventions such as individual counselling are effective for employees with job-related or psychological distress. (T I: Firth & Shapiro 1986, Reynolds 1997)

The aggregate sample size from the two studies was not substantial (n=196) and neither study involved any randomisation. Nevertheless prescriptive therapy, i.e. that which offered problem identification and solving approaches, was associated with greater efficacy than exploratory therapy, i.e. exploring the nature of interpersonal relationships. Individually focused interventions were preferable to organisational ones that attempted to increase participation and autonomy of employees. (Reynolds 1997) It is more effective to treat individuals experiencing acknowledged distress than to offer preventive group work for non-distressed employees.

Employees with mental health-related absenteeism

*** There was strong evidence that cognitive behavioural therapy (CBT) is effective for employees with sickness absence associated with common mental health problems. (T I: Grime 2004, Van der Klink 2003)

Both studies described interventions that utilised problem-solving strategies, either in face-to-face interactions (Van der Klink 2003) or via a computer-based software programme. (Grime 2004) Cumulative sample size was reasonable (n=240). Eligibility criteria for inclusion in the studies included stress-related absenteeism. One study randomised on the occupational physician level (Van der Klink 2003) and the other offered control participants conventional care which included medication, counselling and other care. (Grime 2004) Follow-up in the two studies varied from 3 – 12 months (Van der Klink 2003) to 3-6 months (Grime 2004).

Employees with mental health-related absenteeism: role of key players

* There was limited evidence from two non-intervention cohort studies that rehabilitation for employees with common mental health problems is of inadequate quality and that for employees with high levels of depressive symptoms, the efficacy of supervisor support could not be reliably established. (T II: Nieuwenhuijsen et al 2003, Nieuwenhuijsen et al 2004)

Both of these studies were conducted in the Netherlands and aggregate sample size of employees was satisfactory (n= 298) and of supervisors small (n=85). The studies were measuring time to return to work amongst patients on sick leave with common mental health problems and exploring the role of occupational physicians (Nieuwenhuijsen et al 2003) and also supervisors (Nieuwenhuijsen et al 2004). Quality of care amongst occupational physicians

was partly associated with a better outcome; and employees with higher depressive symptoms were more likely to have later, partial return to work than less depressed employees, regardless of supervisor support.

Employees with common mental health problems: role of key players – primary care physicians

** There was moderate evidence that skilling primary care practitioners to diagnose and treat depression is effective in helping people retain employment. (T I: Schoenbaum et al 2001, Yelin et al 1996) Both interventions were principally with primary care staff but included sizeable numbers of patients (n= 1993). Practitioners were trained in how to interact with patients on the subject of anxiety (Yelin et al 1996) or to deliver discrete quality improvement (QI) services including medication follow-up (QI-meds) or provision of psychotherapy (QI-therapy). (Schoenbaum et al 2001) For patients with previously undiagnosed mental health problem, physician intervention resulted in lower work force participation even though they retained their employment. (Yelin et al 1996) In contrast, patients whose depression was already identified benefited from the QI interventions in terms of fewer days with depression burden and increased labour force participation. The QI-therapy – providing access to structured psychotherapy - was associated with better overall value. (Schoenbaum et al 2001)

DISCUSSION OF FINDINGS

Preventative interventions

What is the evidence for preventative programmes at work and what are the conditions under which they are most effective?

The preventative interventions that we identified were delivered to working populations that had not yet manifested or evidenced any demonstrable mental ill health. This is perhaps best illustrated in the sample populations, which were almost all comprised of volunteers, or of whole cohorts of a particular work group.

It seems clear from these interventions that however stress is conceptualised, or how complex a construct it appears to be, employers have identified the prevention, reduction and management of work related stress as a key component in protecting the organization from the potential negative effects of mental health issues.

Across the reported studies that addressed issues of prevention, there was moderate to limited evidence of the effect of a range of different stress management interventions.

Intervention type was very varied and most involved a blend of different approaches. Most common was combined didactic sessions and skills acquisition, with some programmes building in exercise, relaxation, self-study and practice utilising new skills. Improving problem-solving and communication skills were frequent components of these interventions.

There was support for individual rather than global approaches; amongst those interventions that utilized combined approaches, the ones that included at least some elements of individual training or skills acquisition were more effective than those that did not because so few interventions measured whether impact translated into lower incidence of stress per se, as noted above.

Outcome measures of interventions however were extremely diverse. They ranged from objective measures such as sickness absence, to self-report by participants of measures such as time spent managing stress. Few interventions measured whether impact translated into lower incidence of stress per se. Rather they reported on the extent to which participants had increased their ability to identify and deal with stressors at work, or had learned, practiced and utilized problem-solving, communication or relaxation techniques at work.

This body of evidence suggests that, for populations of employees who are not identified as high risk, and who have not shown any signs of mental health problems, a range of stress management interventions can have a beneficial and practical impact. They provide employees with a range of useful skills that can be exploited to their own and the organisation's benefit.

However the extent to which any of these interventions addresses our first research question, and acts to prevent common mental health problems, remains unclear.

Retention interventions

For those employees identified as at risk, what interventions most effectively enable them to remain at work?

The retention interventions that we identified were delivered to working populations where employees were deemed to be at risk of common mental health problems, because of the nature of their job role, or because they had already been assessed as at risk by means of a range of assessment tools.

As with the preventative interventions reported above, stress management seems to be the preferred way for employers to articulate support for those considered at risk of developing common mental health problems. Reduction or management of stress in these populations already presenting with mental health problems was a feature common to all the interventions in this section.

Across the reported studies that addressed issues of retention, there was moderate to limited evidence of the effect of a range of different stress management interventions.

The strongest evidence came from interventions with health care professionals. Interventions that offered individual approaches to stress reduction and management were preferable to those that used multi-modal approaches. Further, it was the individually-orientated elements of multi-modal programmes that were most effective and had the most long-lasting effect.

There was very limited evidence of effective interventions amongst professional groups other than those who work in healthcare.

Despite a growing body of evidence to support the mental health benefits of physical activity as treatment and also as prevention for mental health problems in the population at large, and also for people with existing mental health problems, (Fox 2000a; 2000b, Mutrie 2000, Faulkner and Biddle 1999, Biddle et al 2000) there was limited support in this review for its role in managing common mental health problems at work. The one study that compared exercise with stress management concluded that a combined approach may have been more effective, i.e. exercise on its own was not associated with outcomes that would measure whether such interventions could facilitate an at risk employee remaining in work.

This inference, along with the findings of the other studies in this section, point to the importance of an individual approach to managing employee populations at risk. The clear conclusion is that amongst employees in this cohort, individual support, training, counselling or skills acquisition to self-manage the situation are paramount.

However, given how widespread knowledge is about at risk employees in certain professional roles, there was limited published evidence for interventions with these groups. Additionally given that risk assessment tools are able to provide profiles of those who would most benefit from such interventions, the dearth of published evidence on relevant interventions was unexpected.

The evidence from the included studies demonstrates that individual approaches to managing common mental health problems in employees at risk are most likely to be effective. It is imperative that those populations are identified accurately so that interventions can be correctly

targeted and applied and the anticipated benefits of retaining key skills in organisations can be realised.

Rehabilitative interventions

For those employees who have had periods of mental ill health related sickness, what interventions most effectively support their rehabilitation and return to work?

The rehabilitation interventions that we identified were delivered to working populations where employees were already experiencing common mental health problems, evidenced through assessment or sickness absence.

In contrast with the prevention or retention interventions previously described, studies that addressed our question of what would facilitate rehabilitation and return to work did not utilise stress management approaches. It would seem that once common mental health problems have been clearly manifested, either through self-selection into individual support or mental ill health related sickness absence, stress becomes a less useful construct.

There was strong evidence for the use of cognitive behavioural therapy (CBT) for common mental health problems. CBT rated over and above other forms of individual support, and also in preference to any organisational interventions that attempted to increase employee autonomy or participation.

CBT aims to challenge specific thinking patterns and implement behavioural change. Therapy is brief, highly structured, prescriptive and problem orientated. A person must accept the psychological nature of their condition and actively collaborate in the therapeutic process.

Its efficacy held whether an employee had either been assessed as having job-related distress or was already experiencing sickness absence. Brief interventions of up to 8 weeks, and sometimes of even shorter duration, were deemed to be most effective.

A significant issue is the lack of trained cognitive behavioural therapists. However one study described an alternative delivery method for CBT and demonstrated an association between use of a computer-aided CBT programme and recovery from stress-related absence. It must be noted that this association was strongest at one month but diminished after three months.

There is a range of different professionals who have a role to play in managing common mental health problems and supporting employees presenting with such issues. Occupational health physicians' quality of care was associated with a higher rate of return to work amongst depressed employees.

There were associations with shorter time to return to work in employees with mental health problems if support from supervisors was well-developed and proactive. There was a particular association if a supervisor had financial or other responsibilities for return to work.

However, there was evidence that for more depressed employees, supervisor support was not effective in achieving a higher rate of return to work. Rather these groups of employees were shown to have later, partial returns to work. These findings raise issues of degree of mental health problems and supervisors' capability to deal appropriately with employees on sick leave with mental health related illness.

The other significant professional group with a role to play in managing employees' common mental health problems are primary care practitioners. In the UK more than 95% of mental health problems are cared for in the community and the vast majority of this morbidity consists of people with disorders such as anxiety and depression. (Goldberg & Huxley 1992)

However epidemiology studies in the community suggest that depression is often under-diagnosed and poorly managed in primary care. (Davidson & Meltzer-Brody 1999, Anderson et al 2000, Murray & Lopez 1997) Possible reasons for depression management deficits in primary care have been identified i.e. amongst patients their inability to articulate their mental health needs or their somatisation of their mental health problems; and amongst practitioners' negative attitudes towards mental health problems in their patients and lack of skills and time to manage them adequately. (Tylee and Jones 2005) Recently published National Institute for Clinical Excellence (NICE) guidelines for the management of depression in primary and secondary care offer little evidence to support structured interventions for mild and moderate depression. People with mild to moderate depression or the associated mixed anxiety and depressive disorders constitute most of those whose care might be influenced by these guidelines. (Middleton et al 2005)

The two identified studies that examined primary care's role in managing employees with common mental health problems produced contrasting findings, depending on whether depression had already been diagnosed or not. For people presenting with undiagnosed depression, an intervention that skilled physicians in diagnosis and treatment resulted in fewer days at work. Where people had already been diagnosed with depression, a quality improvement service, especially one that offered structured psychotherapy, was most effective in reducing depression and increasing labour force participation.

The evidence from the included studies demonstrate that, for people already experiencing common mental health problems at work, the most effective approach is brief (up to 8 weeks) of individual therapy, especially cognitive behavioural in nature (CBT). The intervention seems to be effective whether delivered face-to-face or via computer-aided software. A stronger effect is associated with employees in high-control jobs.

Professionals such as occupational physicians, primary care practitioners and workplace supervisors all have key roles to play in the rehabilitation of employees with common mental health problems. But they will need to collaborate actively so that, regardless of the degree of mental ill health, an employer has the best possible opportunity of rehabilitation.

LIMITATIONS IN THE EVIDENCE

The studies that have informed this review had various limitations across a range of criteria.

Methodologically many of the studies were of poor design and did not always allow for robust conclusions to be drawn. Many of the interventions were non-randomised samples with no control groups. Cluster randomisation, a relatively new approach to introduce more rigour, was utilised in only one study.

Samples were frequently comprised of volunteers or participants selected by employers, or were predominantly male or female participants. Numbers of participants in individual studies were often small or drawn from one section of the workforce only, making it difficult to apply findings across the whole employee population.

There is also a particular issue with disclosure in designing robust studies – it is difficult to sample if employees won't or do not feel it is safe to admit to mental health problems. We found no evidence that this issue of workplace culture is being factored in to studies.

Outcome measures were very mixed and often combined self-report or observational indices, sometimes but not always accompanied by objective, validated measures. Not all studies included measures about either reduction in presenting mental health complaints or ability to remain in work even if mental health problems exist.

Most interventions in the studies were of short (less than one year) duration with limited follow-up. Hence it was difficult to determine whether any changes associated with interventions were sustained over time.

Comprehensiveness of information about interventions was often quite limited. There was insufficient detail to understand the processes involved. Interventions were poorly described and did not offer enough insight into why different aspects might have worked or why. Explanations were rarely offered for participation or non-participation in interventions, and attrition rates were often not explained. In some cases the totality of the methodology only became apparent in the discussion of the findings.

Transferability of findings is an issue that needs to be considered in more depth. Assessing the extent to which an intervention could be replicated in a different setting or with a different occupational group is of course part of the critical appraisal process. However the transferability of findings from some of the included studies raises contextual issues about cultural, professional and occupational conditions that surrounded interventions.

For example, it was not clear whether some interventions could be applied across all groups of employees and so might perhaps only be relevant for managers or certain occupational groups. Even the strong effects found for CBT were mainly confined to job roles with high degrees of control.

Those delivering interventions were in many cases skilled professionals without whose involvement the intervention might not be easily replicated.

Most of the included studies had been conducted outside the UK. So the applicability of intervention delivery modes or constructs used to devise outcome measures need to be assessed as to their applicability to UK workplaces.

Paucity of published studies that addressed our research questions throws up a range of issues. Our exclusion criteria eliminated a large body of published work because of their focus on severe and enduring mental ill health. The scarcity of studies that passed the critical appraisal process for inclusion in the evidence base is a marker of the deficit in research in this area. As a result, the findings and recommendations in this evidence briefing derive from a narrow data pool.

Review process: We acknowledge that however systematic the processes surrounding the identification, retrieval and appraisal of studies, some papers may have been missed. We addressed as many of these issues as possible in our search strategy and also in our review processes. We aimed to be as comprehensive as possible by including two tranches of electronic searching, reviewing follow-on references and accepting suggestions for studies from our external reviewers and also from members of the RWG.

We also recognise that there may have been unintended bias introduced into the search processes. For example, computer-aided CBT emerged as a viable and effective alternative to face-to-face sessions with a therapist although the effects were best after one month, were less effective after 3 and 6 months. Another avenue for delivery of CBT is via a model known as *bibliotherapy*; this is delivered via self-help workbooks. We did not search specifically against this term and so may have excluded, by default, studies exploring this model.

Another example is the role of primary care in managing common mental health problems amongst working people who are their patients. We did identify several studies that explored this key role. However we did not search specifically against the phrase *primary care*. Rather if a study described an intervention delivered in primary care, had work related outcome measures and passed the appraisal process, it was included. As a consequence we may have missed some studies. However we think that the combined expertise of our RWG members as well as our peer reviewers ensured that, as far as possible, key studies were not missed.

Despite these limitations, the evidence in this review does offer answers to our three research questions. There is no perfect evidence and when assessing the effect of interventions, their inputs and outcomes, it is often sufficient to know that the research is good enough to provide a partial or complete answer to a specific set of questions.

The data in this review support a range of individually focused approaches to managing common mental health problems at work in either at risk populations, or with those employees already showing signs of mental health problems.

Nevertheless this review has highlighted significant gaps in what we know and what we can say with assurance about effective approaches to the management of common mental health problems at work. We go on in the following sections to describe the gaps we have identified and the research that might address those gaps.

ISSUES ARISING FROM THE REVIEW

A recurrent theme throughout this review is that common mental health problems are widespread. However the bulk of the studies thrown up in our searching of the published literature were conducted with people who have severe and enduring mental ill health. This cohort represents a much smaller proportion of the working population than those with common mental health problems.

To facilitate effectively the rehabilitation and retention of this much larger group of working people, key players have a significant role. But they will need appropriate training and awareness-raising about common mental health problems to fulfil that role to the benefit of employees.

For example the evidence showed that for employees with more severe depression, supervisor support was ineffective in establishing early return to work perhaps because of the interpersonal difficulties of dealing with depressed people.

This finding contrasts with a review of management attendance at work, one of whose findings indicated that there is some evidence that policies involving early contact with absent individuals can reduce the duration of absence, particularly among those with longer term absence. (Spurgeon 2002) This finding would not appear to be relevant to more severe depression. Appropriate training for supervisors could address this deficit.

An unpublished review of the evidence on job retention for people with mental health problems supports this suggestion. (Thomas et al 2003) It identified employers discriminating against people who have mental health problems and an associated reluctance on the part of the individual to disclose problems and use the support available as major obstacles to return to work. Low expectations amongst both mental health professionals and those experiencing mental health problems about capacity to work were also unhelpful.

Factors associated with successful job retention were short duration of sickness absence, strong management support and commitment, a generally healthy working environment with worker involvement, positive peer relationships and the availability of practical support for problem solving on the job. Person environment fit was identified as a critical factor.

Collaboration between key players is also of the essence, especially as in any team the lead role may change depending on the nature and degree of mental ill health. For example employees on sick leave with less severe depression may have their return to work effectively managed primarily by their supervisor. But more severe depression may require the physician to take the lead role.

Early detection and treatment of depression and other common mental health problems is critical. Common mental health problems are treated almost entirely within primary care in the UK and so primary care practitioners have a vital role to play. There are suggestions however that GPs behaviour can act as both facilitator and barrier to return to work – greater awareness of possible pathology may improve treatment but delay return to work. The conflict they may experience between the individual needs of their patient to feel better, and the organisation's needs to rehabilitate their employee back to work, may be best addressed through occupational health services input. However these professionals are in short supply.

Within the grey literature there was some support for a case management approach, developed by the Commonwealth Rehabilitation Service (CRS) in Australia. The case manager facilitates relationships across the range of people likely to have an impact on the individual's return to work – including the family and the GP – and draws up with the employer and the employee a return to work plan. A small-scale replication of this model in the UK has provided some support for the effectiveness of this model. (Thomas et al 2003) A similar approach has shown promising results, but this was targeted at people with severe mental health problems. (Rinaldi and Perkins 2005).

This approach addresses a crucial issue: are we making people better or are we getting people back to work? These goals should be complementary and yet the evidence has shown that this is not always the case due to the weak link between symptom reduction and work resumption. In essence, employment should be positioned as central to a person's recovery.

Research is needed to explore this conundrum/trade off. Does improved treatment have more durable effects on work attendance or does the postponement of return negatively offset the effects of the treatment? Does the role of the GP differ when considering employees of small and medium sized enterprises as compared with employees of large public sector or private organisations?

Common mental health problems develop independent of a person's work situation, but it is well known that there are a range of stressors in the workplace that can trigger or exacerbate poor mental health. For example, key work factors associated with psychological ill health and sickness absence in staff have been identified as long work hours, work overload and pressure, lack of control over work, lack of participation in decision-making, poor social support and unclear management and work role, with some association with poor management style. (Michie & Williams 2003, Stansfeld 2002, Berkels et al 2004) A cohort study tracking employee health and well-being since the late 1980s has demonstrated that adverse high demands and low support at work were predictive of depressive symptoms worsening, independent of individual personality traits. (Paterniti et al 2002) Intervention studies have however mainly focused on staff training for individuals who are already experiencing work related stress, to enable them to be more robust in the face of such pressures. (Michie & Williams 2003)

There were few studies that addressed organisational interventions to reduce or ameliorate common mental health problems. A longitudinal, quasi-experiment tested whether a work reorganisation intervention could improve stress-related outcomes by increasing people's job control. The study found that the intervention's participative action research approach significantly improved employee's mental health, sickness absence rates and self-rated performance at one year follow-up. (Bond and Bunce 2001) This model has been utilised in a follow-on longitudinal study and the findings seem to confirm that improving internal communication, support and employee participation improves mental health. (Bond & Bunce 2005)

Despite the absence of a large evidence base, there is a great deal of consensual wisdom and employers and other key agencies have produced relevant advice and guidance for the management of common mental health problems at work. For example there is a revised briefing note on mental health due to be published by the Employers' Forum on Disability later

in 2005. There is a mental health at work employers pack produced under the aegis of the *Mind Out* campaign. To mark World Mental Health Day in 2003 a guidance note for employers was produced for the Greater London Authority by **mentality** (mentality 2003). There is an overview of European initiatives (Berkels et al 2004, Kuhn 2004) and local guidance produced by a specialist service. (Ford et al 2003)

Enabling managers or supervisors to have the confidence to speak with and listen to employees with mental health problems at an early stage can avoid the worsening of relationships down the line. Making it safe for employees to acknowledge that they need help, encouraging supportive peer relationships and dealing with bullying can also create the conditions for easier return to work as well as creating a more harmonious work place.

The key research questions informing this review emerged from discussions with BOHRF members. The identified studies answered these questions, as aptly as possible. However research is neither designed to answer the specific questions to which employers require answers nor can a limited research base answer the questions employers might have.

But were the right questions posed? For example, there are key uncertainties for employers wishing to invest in improving sickness absence rates – is prevention better than cure, should there be a concentration on individuals who show signs of mental ill health or provide training to workers known to be at risk? Is it necessary to do both?

Further research will be necessary to unravel some of these complexities. However the evidence that we have identified points clearly to a set of key actions and we enumerate these in a later section.

SUMMARY OF KEY POINTS

Prevention of common mental health problems

- Amongst employees who have not manifested with common mental health problems or who are not at high risk, the evidence suggests that a range of stress management interventions can have a beneficial and practical impact.
- These interventions also provide employees with a range of useful skills that can be exploited to their own and their organisation's wider benefit.
- The extent to which any of these interventions prevent common mental health problems remains unclear.

Retention at work

- Amongst employees deemed to be at risk, either through their job role or who have been assessed as at risk, the evidence from the included studies demonstrates that individual rather than organisational approaches to managing common mental health problems are most likely to be effective in enabling this group to remain at work.
- However it is imperative that those populations are identified accurately so that interventions can be correctly targeted and applied and the anticipated benefits of retaining key skills in organisations can be realised.

Rehabilitation

- For people already experiencing common mental health problems at work, the evidence from the included studies demonstrate that the most effective approach is brief (up to 8 weeks) of individual therapy, especially cognitive behavioural in nature (CBT).
- The intervention seems to be effective whether delivered face-to-face or via computer-aided software.
- A stronger effect is associated with employees in high-control jobs.

EVIDENCE GAPS

Our review has searched for evidence to support effective workplace interventions for people with common mental health problems. We have focused on themes of prevention, retention and rehabilitation. Our search strategy was wide-ranging and included electronic and paper sources as well as suggestions from peer reviewers and members of our reference Group.

Given the prevalence of common mental health problems, we discovered that most of the research on employment and mental health has focused on interventions for people with severe and enduring mental ill health. We would not suggest that this important work should be forfeited to make way for research on common mental health problems. But if the government and other key stakeholders are serious about tackling the consequences of common mental health problems, a different and rethought approach is perhaps overdue.

The gaps we identified that, if filled, could make a difference to individuals and workplaces, were as follows:-

- The absence of a UK evidence base is particularly crucial. The differences in economic, employment and welfare policies in the countries doing most research can make their findings problematic to generalise to a UK context.
- Few studies examined the effect of interventions on populations of disadvantaged workers. This is a serious omission as there are clear links between socio-economic group and incidence of common mental health problems. (Fryers et al 2003) Only one study found that a work-based intervention was effective across job roles. (Van der Klink et al 2003) We also did not find published studies that described research designed within a bio-psychosocial model.
- No studies were identified that attempted to compare different approaches or settings or to explore the relationships between them. Nor were any studies found that looked at mental health in small or medium sized enterprises where there is limited access to specialist health or human resource support.
- Policies on mental health at work offer the possibility of addressing prevention, retention and rehabilitation and more employers are moving towards their implementation. (p.34-35) However we found no published studies of evaluations of workplace mental health policies, either in the UK or internationally. Employee Assistance Programmes (EAPs) are the closest approximation and there is limited evidence to support their efficacy in managing common mental health problems.
- Although some studies did include cost and benefit analyses, there is a need to measure the cost of interventions for people with mental health problems in the workplace, against potential savings to organisation/individual/services. This analysis is especially important in relation to interventions such as CBT which have been shown to be effective.
- There is an absence of large randomised controlled trials (RCTs) and well-designed large-scale qualitative studies. The Government's Job Retention and Rehabilitation Pilots (due to report in 2006/7) may go some way towards addressing this deficit, but

unresolved ethical problems prevented a specific mental health pilot thus limiting the potential evidence relating to people with common mental health problems.

RECOMMENDATIONS FOR FURTHER RESEARCH

It is perhaps a given that a foregone conclusion from any research project will be series of recommendations for additional research. This outcome is particularly true of secondary research such as systematic reviews, which explore existing research studies in an attempt to answer specific research questions.

The following recommendations have been kept to a minimum. They address identified gaps in the data pool as well as highlight areas that we think key stakeholders would want addressed.

- There is a need for an evidence base built on studies done in the UK.
 - There are no adequately powered studies of a generalisable (i.e. not clinical psychologists) UK work-based intervention with a relevant control group and proper outcome measures.
 - Better validated, more specific measures are required; longitudinal studies from which some kind of causality and sustainability of effect can be inferred and more consideration given to exactly when measures are taken; more time series designs.
 - Studies should include economic evaluations that are important in facilitating employers to make decisions about whether or not to implement interventions. (Michie & Williams 2003)
 - Intervention studies that build in at the very least 12 weeks of controlled follow-up. (Van der Klink et al 2001)
 - Work resumption should be included as key outcome measure in effectiveness studies due to the weak link between symptom reduction and return to work. (Nieuwenhuijsen et al 2003)
 - There is a need for research that is informed directly by the evidence needs of employers, employees with common mental health problems and the professions involved in helping both.

- There are suggestions that multi-modal complex interventions have a role to play in the management of common mental health problems at work.
 - We need to know more about the effectiveness of complex social interventions and the different mixes of components.
 - Research is required to ascertain what works, for whom, in what circumstances and why.
 - There are suggestions in the evidence that the effects of particular interventions may be confined to particular groups of workers and that what is socially acceptable to one group of workers may not necessarily be so to others.
 - Research on the impact of stress reduction programmes on different occupational groups is lacking, but the type of intervention should be based on a systematic identification of risk factors and risk groups. (Van der Klink et al 2001)

- Given what is known about psychological ill health at work, there would seem to be a need for more research on interventions based on employment practices and management style.

- This would represent basic prevention, reducing sources of psychological ill health, rather than secondary prevention, training individuals who are already experiencing work related stress to be more robust in the face of such pressures. (Michie & Williams 2003)
- Organisational level interventions should be designed to include training in an individually tailored focus such as learning coping skills. Without such training enhanced organisational benefits such as opportunities for more job control or increased participation may not be utilised by employees. (Van der Klink et al 2001)
- Further research into case management approaches to retention and rehabilitation of employees with common mental health problems.
 - Organise RCTs where supervisors are trained in managing return to work problems. Such research would make it more possible to make more definite inferences on the influence of their behaviour on return to work. (Nieuwenhuijsen et al 2004)
 - There is an interaction with depressive symptoms that need to be taken into account.
 - Such a study could also investigate the relation between the efforts of the employer and the wishes of the employee with regard to regular contacts.
 - Complementary qualitative research would also be valuable in evaluating the impact of supervisory behaviour in different occupational settings and interventions linked to supervisor training.
- Looking at specific interventions, there is enough evidence to design RCTs on specific promising interventions.
 - A UK trial of the effectiveness of CBT against other types of counselling, perhaps in different occupational settings and with different types of workers could add value.
 - Trials like this should be designed to include cost and benefit analysis as well as job outcomes.
 - Further research on computer-aided CBT. (Grime 2004) The evidence for this delivery mode looks promising although the effects were strongest after one month, reducing at three and six months. Accessibility and acceptability are key issues for further research in addition to effectiveness beyond the short term (one month). For example an abridged version with three or four sessions and tailored more to address anxiety should be tested out in workplaces.

RECOMMENDATIONS FOR PRACTICE

The recommendations for practice have emerged from the data pool that supports evidence of effective practice.

- The evidence supports the use of cognitive behavioural therapy (CBT) in brief therapy sessions of up to 8 weeks with people already presenting with common mental health problems.
- CBT is most effective for jobs that already involve a high degree of decision latitude.
- Jobs with low decision latitude should prioritise increasing control potential accompanied by CBT interventions.
- Early psychological interventions are effective for common mental health problems, delivered in the workplace, comprising 4-5 sessions of CBT to increase activity and coping skills for those off sick for two weeks. (Van der Klink et al 2003)
- Interventions conducted by GPs or occupational health physicians or referred by them to psychologists or psychotherapists should be cognitive in nature.
- Supervisors should keep in touch with employees on mental ill health sickness absence at least once every two weeks. (Nieuwenhuijsen et al 2004)
- No intervention has effects that last for ever; training programmes might be more effective at sustaining changes if they include booster and follow-up sessions. (Reynolds et al 1993)

Interventions worth consideration

Although the evidence base did not strongly support these practices, we think that any are worthy of implementation and review if a workplace cannot implement the recommendations for practice.

- Other cognitive/educational approaches (sometimes described as directive or activating)
- Multi-modal interventions (especially via the Internet or other forms of facilitated self help) for employees identified or deemed to be at high risk
- Interventions to train and improve supervisory behaviour
- Selective use of case management with those at risk of long term absence
- Computer-aided CBT available in an amended 3-4 session format, to make it more acceptable to employees.

Build the evidence base

We are aware that employers are trying to manage common mental health problems in their workplaces, regardless of what evidence exists to support effective practice. However, much of this practice remains undocumented and outside of the published literature.

At the very least we would encourage employers to design and implement interventions that are informed by the needs of employees and other key stakeholders. Interventions would ideally build in monitoring and evaluation from the outset, with a view to publicising individual and organisational outcomes and findings. BOHRF could offer its members guidance on best practice in this domain, so that the resulting data will do any intervention and its impact full justice.

TABLE I: Experimental studies (n=19)

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Cecil & Forman 1990	Randomised controlled trial	<p>Three treatment groups: (1) co-worker support: met once a week for 90 minutes over 6-week period – group problem-solving and sharing coping strategies; (2) stress inoculation training: met once a week for 90 minutes over a 6 week period – educational component on stress, relaxation training, learning coping skills and practising them; (3) no-treatment control – offered opportunity to participate in a workshop on teacher stress following completion of data collection.</p> <p>Self-report data were collected the week prior to treatment, and 1 wk and 4 wks following termination of treatment. Ss completed subscales of the Teacher Stress Inventory, 5 subscales from Job Stress in the School Setting, questions on coping skills, and were rated on an observational measure.</p>	<p>Classroom teacher volunteers (n = 54) from nine primary and middle schools in a southeastern suburban area of the United States (at least four volunteers per school). Recruited through brief presentation at a scheduled school faculty meeting. Sample predominantly Female (n = 52) and White (n = 52)</p>	<p>Stress inoculation training was effective in reducing teachers' self-reported stress, while the co-worker support group was not. The stress inoculation group made a significant improvement with respect to stress level and coping skills at post treatment relative to the control group and this change was maintained at follow-up testing. Observable anxiety in the classroom changed over time in all groups but could not be attributed to the intervention.</p>	2+	<p>Stress inoculation training may be effective in reducing self-reported stress. Further research is needed to determine if results are generalisable to a broader population. Discussion acknowledges conflicting and unexpected results such as self-report variables contributing most to differential change residing at an organisational rather than individual level (Professional versus Task Distress). Also use of volunteers creates bias towards those who are most motivated to change.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Cooper & Sadri 1991	Quasi-randomised control study	Open-access client-centred counselling delivered within the occupational health service. Referral pathways via occupational health, self-referral, welfare services, managers, human resources and trades unions.	Employees attending the in-house counselling service in the Post Office in the United Kingdom (n = 250) formed the experimental group. Control group consisted of a comparable group of postal employees matched in terms of age, sex, grade and years of experience. (n = 100) Sample was spread across the entire organisation and included cleaners, postmen and women, postal officers and executives, technical engineers and senior staff in the same proportion as they are represented in the whole organisation.	Compared to a control group of 100 employees, counselled workers exhibited significant declines from pre- to post-counselling in clinical anxiety levels, somatic anxiety, and depression. They also demonstrated increases in self-esteem. Mental health measures showed the greatest change after counselling with significant improvements in somatic anxiety, depression and anxiety.	2+	The study investigates the effectiveness of EAP counselling. However outcomes are not measured for employees suffering from work related stress separate from other 'life' problems. Employee Assistance Programmes resulted in decreased sickness absence and decreased symptomatology.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
DeJong & Emmelkamp 2000	Randomised controlled trial	<p>Participants were randomly assigned to one of two stress management training (SMT) groups or an assessment-only control group. The SMT groups were led either by external clinical psychologists or by paraprofessionals - individuals who held posts within the participating organizations. Intervention comprised eight weekly group sessions of 2.5 hours each. Programme taught participants variety of active coping strategies such as relaxation, problem-solving, assertiveness training and awareness about stress. Ss received take-home audiotapes on muscle relaxation, additional homework and were required to keep a self-report diary for seven consecutive days during the intervention.</p>	<p>Participants were recruited via employers from various organizations in Holland including police departments, schools and a general hospital. Ss had to meet 3 out of 5 selection criteria associated with distress such as neuroticism, lack of social support, inadequate coping strategies, distress in assertiveness and unpleasant life events. Total group comprised 61 men and 69 women with a pooled mean age of 38. SMT groups led by clinical psychologists had 45 participants; those led by paraprofessionals had 44 participants and 41 people were in the control group.</p>	<p>Results show favourable effects of the multi-component SMT program both in the short term as well as at 6-month follow-up. Results showed no serious differences in effectiveness between type of trainers. This is attributed to the pre-intervention training given to paraprofessionals as well as the structured delivery model.</p>	1-	<p>It is important to note that the experimental and control groups opted for their respective conditions. This casts doubt on the generalisability of the positive findings with respect to learning stress management techniques and sustaining their benefits over time. It may have had less effect on the finding that non-psychologists can teach these techniques.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Eriksen et al 2002	Randomised controlled trial	12 weeks x 2 hours p.w.of (1) stress management training (SMT) using a cognitive-behavioural approach; (2) physical exercise (PE) and (3) an integrated health programme (IHP) combining physical exercise and information about stress and coping. Delivered in a worksite settings in Oslo and Bergen, Norway. Professional instructors were trained in respective methods. All interventions were standardised and based on detailed protocols, manuals and prepared teaching material.	Random split of 860 volunteer employees from the Norwegian postal service into the following groups: control (n = 344), PE (n = 189), IHP (n = 165) and SMT (n = 162).	There were no significant effects on job stress of the interventions. Participants in the SMT and IHP intervention groups were more likely to report an improvement in their work situation and capability of dealing with stress than the control group. The strongest effects were obtained with the IHP intervention combining exercise, cognitive factors and information.	2+	Although the interventions had no clear effect on subjective health complaints, stress or self-reported sick leave, participants reported positive effects of taking part in the programme in terms of their attitudes towards work. Findings are evidence based and relevant, although the paper notes some reservations about differences between groups. The large numbers of participants who dropped out of the study is the main limitation.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Firth & Shapiro 1986	Randomised Controlled Trial	Ss each received eight sessions of prescriptive (cognitive behavioural) and eight sessions of exploratory (relationship-oriented) therapy in a crossover design, with each S seeing the same therapist throughout. Intervention delivered in the United Kingdom.	Forty managerial or professional workers (mean age 40.4 yrs) seeking help for clinically severe job-related distress and who were suffering from clinical levels of psychiatric symptoms. All referred by local general practitioners or self-referral after seeing publicity about the service available.	Results at 3-mo follow-up indicate a reduction in distress to within the normal range in 30 Ss. Results favour prescriptive therapy for reduction of overall symptoms, but fail to indicate a difference between therapies for the relief of job-related problems. Treating individuals suffering from acknowledged distress is perhaps a more useful way of approaching stress management than the preventive group work for non-stressed Ss usually reported.	1+	Confounding not well-described and small sample size. Self-selection into study. Prescriptive therapy is better than exploratory [relationship orientated] therapy in overall reduction in stress. Findings are only applicable to managerial and professional groups and cannot be extrapolated to other workers.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Grime 2004	Randomised trial	8-week interactive computerised cognitive behavioural therapy (CBT) programme 'Beating the Blues' plus conventional care, or conventional care alone. Computerised CBT programme delivered via a stand-alone computer in a private room in the occupational health department. Conventional care included medication, counselling, medication and counselling and other care. Counselling included CBT and other forms of psychodynamic therapy. Six Ss in the intervention group and five in the control group received no conventional care.	Ss recruited through a London NHS occupational health department from a population of approx. 50,000 NHS and local authority employees. 48 public sector employees were randomised to either 'Beating the Blues' plus conventional care or to conventional care alone. Eligibility criteria included 10 or more cumulative days stress-related absenteeism in the previous 6 months and a score of 4 or more on the GHQ-12.	At the end of treatment and one month later adjusted mean depression scores and adjusted mean negative attributional style scores were significantly lower in the intervention group. One month post-treatment adjusted mean anxiety scores were also significantly lower in the intervention group. The differences were not statistically significant at 3 and 6 months post-treatment. Non-participation was common and related to access problems, preference for other treatments, time commitments, scepticism about the intervention and employer connection. 'Beating the Blues' may accelerate psychological recovery in employees with recent stress-related absenteeism but greater flexibility and accessibility might improve uptake.	2-	Issues of bias in the intervention and control groups post-intervention is not dealt with. Small effects were detected post-intervention for CBT vs 'normal care' which were not sustained beyond one month. Because of differences between intervention and control groups, effect size may have been exaggerated. However control group received care that may have included CBT and also showed an improvement, so effect size could have been underestimated.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Gronningsaeter et al 1992	Randomised controlled trial	<p>Stress reduction intervention comprising aerobic physical exercise (EX), psychological stress management (PSM), or no treatment to alleviate experienced job stress and its consequences. Before the experiment, before training, and at 10 wks and 6 mo later, Ss underwent testing, including health, anxiety, job stress, job satisfaction, and coping abilities.</p> <p>PSM comprised CBT programme 3 times per week for 55 minutes each. Ss received lectures, group discussion, home assignments and self-study.</p> <p>Ex was also offered 3 times per week in 55 minute sessions.</p>	<p>Physically inactive employees aged 25-67 yrs in a Norwegian insurance company. (men = 39) (women = 37)</p> <p>Selection criteria included gender and measures of job stress and anxiety.</p>	<p>Both interventions had effects which were specific to the type of intervention. For example the EX group showed some improved physiological indicators, especially in women, but reported significantly reduced job satisfaction. The PSM group reported increased coping and improved knowledge about stress. The PSM program was a comparatively weak intervention. There were no improvements in job stress and anxiety. A combined program might be better than either program on its own.</p>	1-	<p>Small sample size with high attrition. No effect sizes are reported. Both anaerobic physical exercise and stress management can significantly improve outcomes, but the effects are specific to the type of intervention. This study included a small sample size with high attrition rates.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Iwi et al 1998	Controlled intervention study	Brief individual counselling (cognitive analytic therapy in 4 sessions of 50 minutes) was offered to the subjects in the study groups. Subjects were allocated to study and control groups, and Questionnaire measures were administered before and after counselling (a 3-month interval), and non-counselled subjects also completed questionnaires at the same times. Main outcome measures were baseline and comparative measures of psychological morbidity, including the General Health Questionnaire (GHQ) and the Occupational Stress Indicator (OSI).	Subjects worked in 15 Housing Management offices of an English urban local authority Housing Department facing compulsory competitive tendering between 1994-97. Staff of one estate office from each pair of offices chosen by random sampling as control group; offered counselling later after completion of study. Those accepting the offer of counselling were subject to greater levels of work stress, had poorer self-reported health and markedly lower levels of job satisfaction than those who did not. Ss mainly in white collar jobs. 51 individuals received counselling but only 26 had four sessions.	Questionnaire response rates were 72% and 47% on first and second occasions respectively. The uptake of counselling was 37%. Questionnaire scores were not significantly different before and after counselling, giving no evidence of treatment effects on symptomatology. However, almost all subjects rated counselling as having been extremely helpful. This study suggests that adverse effects on staff facing organizational change may be ameliorated by improved management practice.	2-	No evidence that intervention had an impact on stress, but rather that uptake of counselling was viewed positively. Similarly no evidence of positive impact of the intervention BUT of positive impact on employee perception.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
<p>Michie & Williams 2003</p>	<p>Systematic literature review</p>	<p>Interventions examining the association between work factors and psychological ill health among health care and other staff.</p> <p>Interventions comprised:- RCTs</p> <ol style="list-style-type: none"> 1. 6 x 4 hour sessions over 9 weeks to teach skills to enhance social support and problem-solving; 2. 20 weekly one hour stress management sessions; 3. 6 sessions aerobic exercise per week for 10 weeks or 3 sessions stress management training per week for 10 weeks <p>Uncontrolled</p> <ol style="list-style-type: none"> 1. 42 weeks of 7 psychological programmes, six weeks each; <p>Observational</p> <ol style="list-style-type: none"> 1. Early referral to Occupational Health <p>Matched controlled</p> <ol style="list-style-type: none"> 1. 4 weekly 8 hour sessions of communications training. 	<p>Six interventions studies: three with healthcare staff (n=1466); one with insurance workers (n=76); one with fire department workers (n = 373); and one with local authority staff (n=604).</p>	<p>Associations between work factors and psychological ill health are similar across sectors and cultural con-texts, so a generic approach to reducing work related psychological ill health may be appropriate. The findings on associations are consistent with the demand /control model of job strain. The experimental interventions all report reductions in stress levels, staff resignation and sick leave and perceived increases in coping abilities between intervention and control groups. The <u>uncontrolled study</u> reported reductions in depression, anxiety, psychological strain and emotional exhaustion immediately post intervention with a further reduction at 9-16 months follow-up. The <u>observational study</u> reported reductions in sickness absence as an outcome of early referral to Occupational Health services, but no statistical tests were reported.</p> <p>In summary, successful interventions that improve psychological health and levels of sickness absence use training and organisational approaches to increase participation in decision-making and problem-solving, increase support and feedback and improve communication.</p>	<p>2++</p>	<p>High quality study.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Mimura & Griffiths 2003	Systematic review	Seven RCTs and three prospective cohort studies that assessed the effectiveness of stress management programmes with nursing professionals were identified and reviewed. Interventions involved various methods: education, role playing, relaxation, music, exercise, humour and cognitive techniques. All lasted several weeks. One study used an environmental approach and lasted six months.	Subjects in the included studies (n=782) were ward nurses, student nurses, psychiatric nurses and care assistants. Original studies had been conducted in USA, Belgium, Taiwan, UK, Sweden and Netherlands.	There seemed to be more evidence for effectiveness of programmes based on providing personal support such as exercise, music and relaxation, than environmental management to reduce stressors such as changing working practices. The quality of the identified research was weak and did not allow for any firm conclusions to be drawn as to which, if any, approach is the most effective. However it seems that there is more evidence for the effectiveness of personal support than environmental management for reducing workplace stress in the nursing profession.	1-	Well-conducted and well-reported review. Included one prospective cohort study as well as RCTs, but reviewed separately. The RCTs reviewed were of poor quality, have a high risk of bias and hence results are not significant. A meta-analysis would have been a better option to answer the research question.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Pelletier et al 1999	Randomised controlled trial	Three related interventions: (1) Group I: The complete intervention consisting of two study assessments, eight modules with designated stress management materials and five periodic telephone calls from a health educator over a 6-month time period (2) Group II: All of the above but without telephone calls; (3) Group III: A control group that initially received study assessments only and after one year received all materials provided to the other two groups.	136 employees of Bank of America (n = 23; w=113) at local branches in California and identified by research team as being at high risk for job strain based on job classification of positions with high demand and low autonomy.	Both the mail and mail plus telephone interventions evidenced positive results, with the mail plus telephone intervention being the more effective. Given the relative low cost of such mediated interventions, the results provide a basis for the further development of interventions that may demonstrate both clinical and cost effectiveness.	1-	Telephone or mail presentations of stress reduction courses are effective, but telephone methods are more effective. Conclusions based on small sample size.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Reynolds 1997	Quasi-experimental controlled study	<p>Compares the impacts and outcomes of an individual level intervention (counseling) with an organizational level intervention (increasing employees' participation and control).</p> <p>University researchers were invited by employers to collaborate on developing and evaluating the intervention that was driven by a desire to reduce absenteeism and psychological and physical distress.</p> <p>Counseling comprised three 1-hour appointments, the first two one week apart and the third three months later. First sessions identified a problem and possible strategies and the third session offered a review.</p> <p>Organisational intervention aimed to increase the opportunity and level of participation and control of all employees in the day to day decisions within work teams, clarify responsibilities and duties, increase level of job-related information available to employees and to enable supervisors to give clear feedback about performance. Relevant training and feedback was provided for managers who utilized these skills in performance review sessions with those they managed.</p>	<p>Ss were 156 city council department staff employees in an English housing services office. Two areas [A, B] received intervention and one [C] was nonintervention control. (A: n = 37; B: n= 76; C: n= 43)</p>	<p>Outcomes of the intervention strategies were assessed at 1 and 2-yr follow-up. Results show that the individual counseling intervention had clear benefits for employees' psychological well-being and that the organizational intervention did not. It is suggested that the causal relationships between the work environment and psychological distress have not been demonstrated and that techniques for bringing about change in organizations are poorly developed. Therefore, the strategy of changing work conditions cannot, at present, be expected to improve the psychological states of employees. Thus, whereas organizational interventions that aim to prevent psychological distress may be "better" in ethical and moral terms, individual counseling interventions that aim to treat psychological problems or help individual employees manage difficult working conditions appear to be "better" in terms of efficacy and efficiency.</p>	2-	<p>Reasonable sample size (156) though no power calculation. Used published measures. 12 month follow-up and 24 months for absenteeism. No randomisation. No interim assessment within 12 month follow-up period, may have been fluctuations in the meantime. No explicit description of analysis. Organisational intervention did not have any impact on psychological well-being; individual counseling was effective in improving psychological well-being.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Rose et al 1998	Randomised Controlled Trial	<p>Stress management programmes delivered by clinical psychologist in a neutral setting. Three training sessions (either whole day or half-day) focusing on problem-solving and personal and organisational stress reduction with a gap of 8-10 weeks between. Goals were set with the aim of reducing levels of anxiety and depression in staff and these were subject to review in one hour sessions after training and at 2-6 weeks post intervention.</p> <p>Assessments were made of anxiety and depression levels and demands, supports and constraints at work.</p> <p>Staff in the intervention houses were also observed at work to determine who they were interacting with, the nature and type of the interaction, and the amount of time spent on different aspects of the job.</p>	<p>15 direct care staff in two group homes for people with learning disabilities in the United Kingdom. Houses were selected for the project on the basis of perceived need by management. 23 staff working in three similar homes were used as controls.</p>	<p>Reassessment in intervention houses showed reductions in anxiety and increased perceived support when compared to controls. There were also changes in some observational measures, particularly increased positive interactions and assistance given to clients, and formal education programmes. Results suggest that intervening to reduce levels of anxiety and depression can have a positive impact on work performance in these settings.</p>	2+	<p>Interventions were very clearly described, as well as the hypothesis being tested and the predicted outcomes. There were problems with small sample sizes which rather undermine the precision of the analysis. Also there are issues re: lack of collection of evidence from control groups. Appears that specific focused stress management programmes have positive impact on staff and their interactions with clients. However larger scale and more prolonged research needed to determine this in more robust manner and to deal with specific vs generic provision.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Sallis et al 1987	Randomised study	<p>Three worksite eight week stress management programmes (one hour p.w.) compared – relaxation training group (RT); multi-component stress management training group(MSM); education/social support group (ES).</p> <p>Intervention delivered by two clinical psychology graduate students and sessions held during lunch breaks or after end of working day in employees' own time.</p>	<p>76 volunteer employees from two 'high tech' corporations in San Diego, California, USA. (m = 43, f=33) RT = 26 MSM = 26 ES = 24 Ss paid \$30, all of which was refunded if they attended all sessions.</p>	<p>Measures collected at baseline, after the 8-week intervention and at three month follow-up. Significant reductions in anxiety, depression and hostility, all of which were maintained. No evidence that one mode of intervention more effective than any of the others. Psychological benefits may have been due to non-specific intervention factors.</p>	2-	Absence of control groups for each type of intervention means that cannot be sure these results were due to the interventions.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Schoenbaum et al 2001	Randomised controlled trial	Forty-six matched primary care clinics in six community-based managed care organisations in the United States were randomly assigned to provide usual care or to one of two quality improvement (QI) interventions offering training to practice leaders and nurses, enhanced educational and assessment resources and either nurses for medication follow-up or trained local psychotherapists. Practices could flexibly implement the interventions which did not assign type of treatment. 2-yr period of implementation of the Partners In Care (PIC) interventions for depression, relative to usual care, in diverse managed care practices.	1356 patients aged 18 yrs and older with depression enrolled in the study: 443 in usual care, 424 in quality improvement (QI)-meds, and 489 in QI-therapy practices. Patients were eligible if they intended to use the practice over the next 12 months and screened positive for depression. (WHO CID) 181 primary care clinicians participated.	Patients had 25 and 47 fewer days with depression burden and were employed 17.9 and 20.9 more days during the study period. The authors conclude that practice-initiated, locally implemented programs that encourage guideline-concordant care for depression can substantially reduce the individual suffering and economic consequences of depression. QI-therapy may have a better overall value in terms of cost per QALY than QI-meds, suggesting that there may be a particular value to improving access to structured psychotherapy for depressed primary care patients.	1+	The intervention was with primary care clinicians, not in an occupational context. Days worked in each six month follow-up period was one of the outcome measures. No comment made about those eligible to enter study but not doing so. Good sample size but only 70% of eligible subjects entered study. Subjective reporting by Ss. Limited range of practices chosen from which to recruit Ss. Relevance to a UK context as relates to quality of patient care, particularly CBT.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Van der Klink et al 2001	Meta-analysis	Occupational stress-reducing interventions and the populations for which they are most beneficial. Four intervention types were distinguished: cognitive-behavioural interventions; relaxation techniques; multimodal programmes that combine elements of CBT and relaxation; and organisation-focused interventions. Outcome variables were categorised into (1) quality of work life (2) psychological resources and responses (3) physiology (4) complaints such as stress or burnout (5) absenteeism.	3736 participants from 48 experimental or quasi-experimental studies. Ss with imminent or already manifested stress-related psychological problems.	Cognitive-behavioural interventions were significantly more effective than relaxation techniques. Effect sizes for all the outcome variables except absenteeism were significant at $p < .05$. Shorter programmes of CBT (> 8 weeks) were more effective than programmes of longer duration. CBT was most effective with employees in high-control roles.	I++	

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Van der Klink et al 2003	Prospective randomised cluster controlled trial	To compare effect of an innovative activating intervention (development and implementation of problem-solving strategies for working life problems) with care as usual for the guidance of employees on sickness leave because of an adjustment disorder. Symptom intensity, sickness duration, and return to work rates were measured at 3 months and 12 months. Analyses were performed on an intention to treat basis. Intervention conducted in the Netherlands.	Clustering was on the occupational physician (OP) level. (Intervention group n = 17; control group n = 16.) Total of 192 patients on first sickness leave for an adjustment disorder. OP included patients varying from one to 16 (mean = 6). OP stratified by experience. 5+ years considered experienced. Ops instructed on how to inform patients about study.	At 3 months, significantly more patients in the intervention group had returned to work compared with the control group. At 12 months all patients had returned to work, but sickness leave was shorter in the intervention group than in the control group. The recurrence rate was lower in the intervention group. There were no differences between the two study groups with regard to the decrease of symptoms. The experimental intervention for adjustment disorders was successful in shortening sick leave duration, mainly by decreasing long term absenteeism.	1+	Large sample (192) though no power calculation. Follow-up at 3 and 12 months. Physicians stratified by experience prior to randomisation. Randomisation and administration of measures blind. Attempted to take account of physician effects and socio-demographic differences between intervention and control groups. Randomisation at physician not patient level. No protocol for intervention but physicians were trained and supervised. Intervention physicians not blind. 20 % of control physicians also used some intervention tools. Early stage intervention aimed at the acquisition of coping skills and at regaining control was successful in shortening sick leave during duration, mainly by shortening long-term absenteeism.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Yelin et al 1996	Randomised controlled trial	<p>Education to attune primary care physicians (PCPHs) to previously unrecognized and untreated anxiety.</p> <p>Labour force participation of persons with anxiety after 5 months of follow up was main outcome measure, as well as the impact of the intervention on hours worked in the week before the follow-up interview and on the presence of bed days in the month before that interview.</p> <p>Physicians in a mixed model health maintenance organisation in the United States were randomised by practice site to groups with (intervention) and without (usual care) intensive one-on-one education about anxiety and feedback about their patients with anxiety (PWAs).</p>	<p>75 Primary Care Physicians</p> <p>Persons 21 – 65 years of age meeting SCL-90-R cutoff for anxiety and whose medical records showed no evidence of recognition or treatment for a mental health condition in previous 6 months. (n=637)</p> <p>Of these 573 (90%) completed follow-up assessments.</p>	<p>Overall results show that providing medical care services to PWAs will help them retain employment, but making a special effort to alert their physicians to anxiety may actually lower the LFP rate.</p> <p>The lessons of this study may be that identification of all problems is a worthwhile goal, but special attention to one problem alone, especially when that problem is anxiety, may have unintended consequences.</p>	1+	<p>Providing medical care services to persons with unrecognized and untreated anxiety will help them retain employment. Alerting treating primary care physicians to anxiety may lower the probability of an individual being in employment. Intervention not conducted in an occupational setting, but patients' labour market participation and hours worked were the main outcome measures.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Zolnierczyk-Zreda 2002	Randomised controlled trial	‘How to cope with work-related stress’: Stress management intervention based on enhancing positive coping styles and focused on problem-solving and social diversion and on decreasing negative, emotion-focused and distraction-coping. 10 4-hr weekly sessions held over 10-week period. Control group received delayed intervention.	85 employees volunteered to participate in the study. Recruited via notice sent to HR departments of several banks and insurance companies in Poland. Mean age was 37.7 yrs. More than 75% of the group were <40 yrs. (M = 24; F = 61)	In the experimental group, the level of positive coping styles significantly increased. The effect of decreased negative coping styles due to the intervention was observed only in the group of participants with a high level of negative affectivity.	1-	Subjects were volunteers, drop outs all in the experimental group, durability of effect and its association with mental health not proved. Very small sample size, hence large SD, OR not calculated, selection bias. Weak study.

EVIDENCE TABLES: Non-experimental and non-intervention studies (n = 12)

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Barkham & Shapiro 1990	Non-randomised pilot study	Brief therapy model: cognitive-behavioural (prescriptive) or relationship-oriented (exploratory) therapies as interventions for job-related problems offered in two one hour sessions one week apart followed by a third session three months later. Delivered by the authors, both clinical psychologists, in the United Kingdom.	Consecutive clients (n = 12) referred to the psychological clinic by general practitioners or occupational health officers or independently. Each met criterion for mild depression (score in the range 10 – 15 on the Beck Depression Inventory). All clients were white-collar employees in employment and currently attending work.	Assessments were carried out at six points ranging from intake into the study to six months post completion. Between assessment 3 and 4, i.e. immediately before the intervention and then at two weeks after the two-block session, Ss showed a significant difference in BDI scores. (P,0.05) At 6 months post intervention, improvement ranged between 55 and 73%. Findings support clinical and cost effectiveness of brief therapeutic interventions for job related distress.	2-	Several pre-intervention and post-intervention assessments reduce, but do not eliminate, potential effects of extraneous variables. Used published measures. Small sample and no control group. Preliminary support for short-term relationship-oriented therapy as well as CBT; plans for a larger scale trial.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Barrios-Choplin et al 1997	Exploratory field study	<p>Inner Quality Management (IQM) comprises four training modules delivered over one day's time: Freeze-Frame [changing interpretive styles to affect mood and stress]; Intuitive Communication [enhancing communication and goal clarity]; Power Tools for Inner Quality [creating a caring culture and job satisfaction]; and Quantum Management [operationalising the above tools on a daily basis]. Follow-up of executives and engineers at 6 months and factory workers at 3 months due to pressure to complete study by employer. Intervention delivered at Motorola in the United States.</p>	<p>48 employees selected by the company: executives (n = 9); software engineers (n = 9); factory workers (n = 30) Mean age 42 with an age range of 21 – 68.</p>	<p>Four hypotheses were tested:- (1) Contentment, happiness and goal clarity would increase between T1 [before training] and T2 [after training]; (2) Tension, anger and physical symptoms of stress would decrease between T1 and T2; (3) Blood pressure in hypertensive individuals would decrease between T1 and T2; (4) Stress reduction will equate with lowered resting autonomic activity evidenced by heart rate variability between T1 and T2. Data for managers were analysed at 6 months and that from the factory workers at three months. For managers there was a significant increase in contentment and significant decreases in nervousness and the physical symptoms of stress. For factory workers there were significant increases in communication and job satisfaction and significant decreases in tension and anxiety.</p>	2-	<p>Study describes a stress prevention intervention. Published psychological measures were not used, but researchers did perform a reliability test on their own measures. No information about recruitment of participants who were selected by the company. No control group, numbers small and groups were not matched. Shows that a specific programme of training [IQM] increased certain groups' contentment, job satisfaction and communication skills but evidence to support these findings is weak.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Golembiewski et al 1987	Action research	<p>Organisation development intervention delivered over two years including identification of salient issues by participants, data-gathering by means of surveys, establishing of interest groups, action planning, policy intervention and review.</p>	<p>Thirty-one human resources staff in a corporation in the United States.</p>	<p>The level of burnout, initially high among the HR staff, diminished and remained reduced for at least 4 mo after the last planned intervention, although this improvement decayed following 9 more months and a major reorganization. The improvements in group characteristics and the turnover rate amongst HR professionals persisted and were even enhanced.</p>	2-	<p>Followed up over two years, used published measures, an interesting action research project but methodologically flawed. Presentation of methods very confusing. We only discover that some sort of matching technique and a 'near comparison group' were used as the results are presented. Drop out rate also very unclear and not discussed. No proper control group. No explicit description of analysis. This intervention had substantial, persistent effects on burnout and turnover. However, because this is 'action research' focusing on issues identified by participants, its replicability is uncertain. But the overarching idea is interesting.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Jenkins & Calhoun 1991	Comparative field study	Studied stress in the teachers' environment and compared two methods of assisting teachers with managing stress. Three weeks after completing a set of pre-test questionnaires, Ss participated in one of two 3-hr training sessions: an individualized training method which provided ways of assessing and managing stress; and a global approach training method that only provided information about stress. 83 Ss completed post-test questionnaires 3 wks after the training session concerning their activities in stress management since the training.	Ss were 124 female school teachers of kindergarten through Grade 12 from the state school system of two central Georgia counties, USA. All Ss were volunteers and were allocated to intervention types.	Results provide data concerning types of stresses experienced, sources of stress at work and home, effects of stress and burnout, and relative effectiveness of the two training approaches in terms of degree of relief, variety, and type of methods used, and degree of involvement. Only Ss who received the individual training method significantly increased the time they spend on managing stress.	2-	With this sample of teachers it appears that individual approach to stress management is a superior intervention in managing stress in the short term than a global approach. This paper is solely about time spent managing stress, not whether this is a positive or a negative thing. There was also only short-term follow-up after three weeks; it would be interesting to know if the effect was sustained. Overall the reviewers expressed concerns that the only significant finding was that people receiving individual training spent more time managing their stress. It was not clear if this would translate into a reduction of stress [it could result in an increase]. The study was worth including if there is strong evidence from elsewhere that time spent on managing individual stress results in stress reduction.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Kagan et al 1995	Field study	Seven preventive stress reduction psycho-educational programs delivered over three years. Single programs based on physiological muscle relaxation training, meditation, exercise (M), coping-with-people assertiveness training, crisis resolution, suicide prevention and hostage negotiations (A), or interpersonal awareness insight therapy, stress management and interpersonal skills training. (I) Four combination programs, A & I, M & A, M & I, and M & A & I, on measures related to job stress. The overall effect as a single treatment type was determined as well as the relative effect of each program in the near and long term. Intervention delivered by four counselling psychologists, two male and two female.	Participants in this 3-year field study were 373 employees in the emergency medical service of the municipal fire department in Houston, Texas, USA. Ss selected randomly by the Fire Department. All but two Ss were male. Mixed ethnicity and job role.	Pre- and post follow-up improvements were found on standardized psychological instruments and on a job performance measure. Improvements were maintained and even enhanced over a 9- to 16-month follow-up period. Findings support the value of psycho-educational training programs for preventative mental health in the workplace. Combination of (A) and (I) preferable to (M) and (A) for stress reduction. Only program (I) alone continued to reduce emotional exhaustion and vocational strain during follow-up period.	2-	Large sample (373) though no power calculation. To compensate for lack of controls used a wide range of measures and also used published measures. There was no control for instructor effect. Programmes were effective for employees in highly stressful jobs. Most improvements were sustained at follow-up. Certain combinations more effective than one programme alone.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Kiely & Hodgson 1990	Mixed methods: Case study visit, survey and interviews	Examined the job and role of prison officers in light of theoretical work on occupational stress. Research findings and literature reviews on the value of exercise to offset occupational stress are considered. Intervention identified was staff exercise programme in a prison in North East England, in operation since 1983. Data were collected in a visit to a prison operating a staff exercise program and in interviews with prison staff. Also examined were questionnaire responses from 5 governors indicating their opinions of occupational stress and the feasibility of introducing staff exercise programmes.	Self-selected numbers of employees; average weekly attendance of staff at outset of programme in 1983 was 28%, rising to 35% in 1984, stabilising at 31% in 1985.	Results highlight the positive benefits of physical exercise and general fitness, both as stress preventors and as a means of overcoming the harmful effects of stress. The cases of three male prison officers with self-described stress-induced illnesses illustrate the usefulness of exercise in the amelioration of stress.	3	In terms of highlighting issues for more detailed analysis, the chosen method is appropriate, but not as a means of demonstrating the effectiveness of impact. Physical exercise appears to have a positive effect as stress prevention and to overcome stress-related illness. However more rigorous, systematic research is needed to demonstrate this effect in more detail.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Meier 2002	Feasibility study	<p>Online support group – a <i>listserv</i> - for social workers in the United States, to help them cope with job stress and burnout. Intervention developed, conducted and evaluated by author to provide members with emotional support and validation of their feelings about work, and to provide information about job stressors and alternative ways of coping. Online discussions coordinated by a group leader who was a licensed clinical social worker, experienced group leader and internet user. Group leader provided focal points for discussion each week. At week four group members changed focus to look more at work-life balance issues.</p> <p>Quantitative data collection included 3 x paper questionnaires posted to Ss measuring stress using OSI. Qualitative data collection included texts of all emails posted; private communications between the group leader and the author; and private emails to group leader from Ss.</p>	<p>Twenty-six volunteers recruited on basis of screening to ensure selection criteria were met. All Ss had to be MSW level social workers. All Ss were working full time, had to have access to the Internet, and had to satisfy expectations about how often they would post messages i.e. once per week. Final numbers in the study were 23.</p>	<p>The findings suggest that online support groups can be helpful to social workers in coping with psycho-social stressors, but it remains unclear whether it is an effective means for helping less technologically inclined workers cope with stress caused by office automation or the dominance of the Internet. Members posted less messages when focus changed from job stress to work-life balance issues.</p>	2-	<p>Unclear whether intervention was aiming to reduce job stress overall or just that derived from using technology. A US paper. This is a very long paper describing the development on on-line group support for Social Workers. The author describes work in progress and describes pilot work of a group for 19 Social Workers.</p> <p>A difficulty with this paper is its length, describing its method and findings more succinctly would have been helpful.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Munz et al 2001	Controlled trial	<p>A comprehensive worksite stress management program consisting of self-management training (SMT) and a stressor reduction process (SRP) was evaluated in a pre- and post treatment-control design in four comparable facilities.</p> <p>SMP delivered by four certified self-management trainers (2M, 2F)</p> <p>SRP delivered for 12h in 3h modules by psychologist from corporate HQ. Comprised identification and minimisation of stressful working conditions, creation of strategic solutions and evaluation after implementation.</p>	<p>55 volunteer customer service/sales representatives from a large American telecommunications company completed the program and the pre-and post measures; 24 participants served as the control group and completed the pre- and post measures. Ss worked in four comparable units in four different cities.</p>	<p>Results show that over a 3- mo period those individuals attending self-management training improved on emotional well-being measures. Organizational data suggest that their work-units' productivity increased and absenteeism decreased over the same period. Results support the value of combining self-management training and stressor reduction to produce positive individual and organizational outcomes.</p>	2+	<p>Clear description of intervention and pre-intervention characteristics in both intervention and control groups. There was clear evidence providing support for an effect, but issues relating to people volunteering for the control groups were not initially evident. Some of the measures were all at an organisational rather than an individual level. Only three month follow-up, so no long-term impact measured. Training applied in combination appears to have impact on sense of control [possible reduction of stress and increase of well-being] BUT lack of individual performance data means more data required in order to draw more robust conclusions. Impact overall currently remains questionable.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Nieuwenhuijsen et al 2003	Retrospective cohort study	<p>NO INTERVENTION</p> <p>Audit of files of patients with adjustment disorders who visited their occupational physicians to assess quality of rehabilitation was assessed by means of 10 performance indicators, derived from the guidelines for the treatment of employees with mental health disorders. Performance was dichotomised into optimal and deviant care according to explicit criteria. The performance rates were related to time until work resumption during a one year follow up period. Kaplan-Meier survival analyses and Cox proportional hazards analysis were used to study this relation.</p>	<p>Cohort defined as the first 100 patients on sick leave because of adjustment disorders who visited their occupational physician in the years 1999 and 2000. Other inclusion criteria were first time visit to an occupational physician since the onset of sickness absence; 100% absence from work; no major psychiatric disorder such as depressive disorder; and no prominent somatic disorders.</p>	<p>Rehabilitation process of employees with adjustment disorders leaves significant room for improvement, especially with regard to continuity of care. Quality of care was partly related to a better outcome. More rigorous study designs are needed to corroborate these findings.</p>	2++	<p>Results presented as association between performance of certain practice guidelines and time to return to work. Significance is shown by means of confidence intervals. There is a strong association between continuity of care and a significant but weaker association between organisational interactions and time to return to work for employees with 'adjustment disorders'. The way the guidelines are drawn up account for weakness of guidelines and strength of outcome.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Nieuwenhuijsen et al 2004	Cohort study	<p>NO INTERVENTION</p> <p>Telephone interviews with supervisors (n=85). Questionnaires to employees (n=198) providing information on person-related factors, depressive symptoms and sickness absence at baseline, three months, six months and after one year.</p> <p>Three aspects of supervisory behaviour measured: communication with employee, promoting gradual return to work and consulting of other professionals.</p>	<p>30 occupational physicians from nine occupational health services provided data on consecutive patients. Data on 277 employees provided; 66 refused to participate; 198 of the 211 employees completed baseline questionnaire; 98 gave additional consent to contact their supervisor; only 85 supervisors were actually interviewed.</p> <p>Employees' occupations were categorised into (1) mentally demanding (2) combination mentally and physically demanding (3) physically demanding.</p> <p>Cohort mainly consisted of employees from the education and services sector.</p>	<p>Better communication between supervisor and employee was associated with time to full return to work in non-depressed employees.</p> <p>For employees with a high level of depressive symptoms, this association could not be established.</p> <p>The association with a later, partial return to work is more pronounced in employees with higher levels of depressive symptoms. Supervisory support is non-medical and sickness absence behaviour in those who are suffering more severe depression is likely to be more determined by medical support.</p> <p>Communication with more depressed employees may not be as effective as it may evoke more negative responses.</p> <p>Consulting other professionals more often was associated with a longer duration of the sickness absence for both full and partial return to work.</p> <p>If sickness absence had financial consequences for the department, the supervisor was more likely to communicate frequently with the employee. Supervisors who were responsible for return to work in their organisation were more likely to communicate better and to consult more often with other professionals.</p> <p>Supervisors should keep in touch with employees who are away with mental health related sickness absence at least once every two weeks.</p>	2-	<p>No comparison groups used as there was no intervention.</p> <p>Examines predictive factors relating to full return to work in a depressed and non-depressed sample. Small sample size and issues related to generalisability of findings, recall bias and confounding.</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Reynolds et al 1993	Cohort study	Six two hour standardised sessions of stress management training combining didactic learning, practice of techniques, group discussion and exercises. Delivered by chartered clinical psychologist.	92 female health service workers in a UK health facility volunteered to participate. Specific occupational groups targeted were hospital nursing staff, community nurses, midwives, physiotherapists and occupational therapists. They were recruited via line and departmental managers and were assigned to ten treatment groups led by chartered clinical psychologists.	After training participants reported significantly lower levels of psychological distress which were maintained at three month follow-up, but no changes in job or non-job satisfaction.	2+	In the absence of a control group the findings need to be taken in the context that it cannot be known whether any impact is directly attributable to the intervention itself. Very little description of the process by which the research was undertaken. No description of how all participants were accounted for.. Stress management programmes at best have modest or short-term impact on self-reported status and perceptions of work satisfaction. However it is not clear that the intervention in such programmes has a long-term impact, thus measuring their complexity and cost may not be justified.

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
Slaski & Cartwright 2003	Matched control study	<p>Training in emotional intelligence (EI) as a moderator in the stress process with main emphasis on developing self-awareness and detachment.. Training delivered one day per week for a 4-week period with intervening weeks allowed for Ss to practice and embed learning. Training delivered by one of researchers and by an additional two external experienced trainers. Sessions limited to 12 participants resulting in five separate programmes. Programme content focused on developing self-awareness and detachment, skills acquisition in recognising and managing one's emotions. Techniques included role play, paired exercises, one-to-one coaching and feedback, group discussions, and short lectures. Participants encouraged to keep an 'emotions diary' throughout training programme.</p>	<p>A sample of 120 middle managers in a large UK retail chain volunteered for the study. Half (n = 60) were allocated to a training group and half (n=60) to a control group. Sample predominantly male. (60%) Training and control groups matched for age, gender, educational and marital status. Mean age 37 yrs. Pre and post measures were taken relating to (EI), stress and health and management performance.</p>	<p>Results suggest that emotional intelligence can be taught, can be learnt and may be useful in reducing stress and improving health, well-being and performance. Not possible to identify specifically which aspects of the training were more effective in facilitating development of EI than others. Not able to conclude whether EI is a moderator or consequence of stress, i.e. is it preventive or causative.</p>	2-	<p>Sample comprised of volunteers. Control group showed higher levels of distress post-analysis and authors indicate that there may have been organisational climate of increasing stress and falling morale. This raises ethical issues. No description of loss to follow-up amongst intervention group (n=8) or control group (n=11). This is an empirical study done in England that compares two matched groups of managers – one who underwent a day (one day per week) training course on Emotional Intelligence (EI). The other (control) group received nothing. Measures were taken before</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
						<p>and after the course (on EI, GHQ-28, psychological outcomes, stress and management performance).</p> <p>The results suggested that the EI course improved EI, reduced stress and improved GHQ scores and psychological score. There was no effect on management performance.</p> <p>The problems with the study were: Not clear how the managers were allocated to the 2 groups (there was no mention of randomisation) – the authors imply that the managers were matched – presumably on a 1 to 1 basis. The analysis was strangely presented</p>

Author	Type of Study	Intervention	Sample	Authors Findings	Reviewers SIGN Grading	Reviewers Comments
						<p>– the ideal analysis would have been a 2-way ANOVA (or ANCOVA) paying particular attention to the interaction effects.</p> <p>The authors think that the GHQ is a measure of General Health – it isn't. It is not clear how the study results should be interpreted – there do appear to be positive findings – but there does not seem to be an effect of work performance (the improvements shown may all reflect the same dimension ie psychological well-being – and it may be that the EI results are no more than this – thus have they done a good stress reduction group?)</p>

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APPENDIX A: RESEARCH WORKING GROUP

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Dr Ira Madan (Vice Chair)	Consultant Occupational Physician Guy's & St Thomas's NHS Foundation Trust
Dr Bob Grove (Senior Researcher)	Director Employment Programme Sainsbury Centre for Mental Health
Linda Seymour (Scientific Secretary)	Research & Policy Development Manager mentality @ The Sainsbury Centre for Mental Health
Dr Jed Boardman	Consultant/Senior Lecturer in Social Psychiatry, South London and Maudsley NHS Trust and Health Services Research Dept, Institute of Psychiatry King's College London
Dr Dennis Ferriday	Director Health Services (Europe), Ford Motor Company
Dr Fiona Ford (representing RCGP)	Senior Lecturer in General Practice University of Central Lancashire
Ann Kelly	Representing Chartered Management Institute
Dr Noel McElearney (BOHRF Trustee)	Director Health Safety & Environment Scottish & Newcastle plc
Tom Mellish (resigned March 2005)	Health & Safety Officer, TUC
Hugh Robertson (from April 2005)	Senior Health & Safety Officer, TUC
Susan Scott-Parker	Chief Executive, Employers Forum on Disability
Simon Pickvance	Senior Occupational Health Adviser Sheffield Occupational Health Advisory Service
Professor Jenny Secker	Professor of Mental Health Anglia Polytechnic University & South Essex Partnership NHS Trust
Professor Justine Schneider	Professor of Mental Health & Social Care, Nottingham University
Grahame Whitfield	Department for Work and Pensions
Ben Willmott	Employee Relations Adviser, CIPD
Brian Kazer	Chief Executive, British Occupational Health Research Foundation
EXTERNAL REVIEWERS	
Professor Gordon Waddell CBE	UnumProvident Centre for Psychosocial and Disability Research, University of Cardiff
Dr Nick Glozier	Institute of Psychiatry, King's College, London

APPENDIX B: Inclusion and exclusion criteria

Quantitative Studies

Inclusions

English language

1980-2004 (April)

Randomised Controlled Trials (RCTs)

Systematic reviews

Cohort studies

Quasi-experimental studies

Studies using clear criteria for definition of Mild to Moderate Mental Health Problems (may include questionnaire scores where the defining questionnaire is accepted as valid and reliable)

Intervention evaluation studies

Interventions aimed at individuals

Interventions aimed at management role

Meta analysis studies

Evidence of systematic research process

Sufficient data to assess validity

Interventions based in primary care settings

Interventions based in community settings

Exclusions

Interventions that include *ONLY* pharmacology

Interventions dealing *ONLY* with severe/enduring mental health problems

Interventions dealing *ONLY* with psychotic disorder

Interventions dealing *ONLY* with people with learning disabilities

Studies dealing *ONLY* with substance or alcohol abuse

Editorials

Dissertations

Policy documents

Book reviews

Single case studies

Sample sizes <50 (unless strong effect sizes)

Unclear research question

Unclear outcome measures

Data collected at only one point in time

Interventions based in psychiatric settings

Qualitative Evaluations & Studies

Inclusions

All sample sizes

English language

1980-2004 (April)

Evidence of systematic research process

Sufficient data to assess validity

Exclusions

Unclear/unfocused research objectives

Unclear/unfocused outcome reports

APPENDIX C:

Search History for the Systematic Review of Workplace Interventions for People with Mild to Moderate Mental Health Problems

Databases Searched

PsychInfo, NIOSHTIC, CISDOC, MEDLINE, CINAHL, Sociofile, ASSIA, IBSS, Cochrane, Business Source Premier, Emerald, PubMed and EMBASE

Search Terms Table

Health +	Occupational +/-	Context
“mental health problems”	Work	intervention
“mental ill health”	Employment	management
“mental illness”	Occupati*	rehabilitation
Depression	“sickness absence”	“help(-)seeking”
Anxiety	“job retention”	“case manag*”
Stress	workplace	preventi*
“sickness certification”	“occupational health”	policy
psychological well-being	counselling	risk
mental distress	Cognitive Behavioural Therapy (CBT)	primary care
disability	Employee Assistance Programmes (EAP)	health and safety
Psychiatric disorder	Stress management	mental health policies
Common mental disorder	Psychosocial	Integrated working
Side effects of medication	Job retention services	Audit
Adjustment disorders	Anti-discrimination	Productivity
Coping	Anti-stigma	Cost
Psychological disorder	Workplace adjustments	Pace of change
Mental disorder	Accommodation	Change
Psychological problems	Work readiness	
Restoring function	Work hardening	
	Redeployment	
	Return to work	
	Employee health programme evaluation	
	Capability	
	Employability	
	Workability	
	Job Loss	
	Work Loss	
	Enablement	
	Empowerment	
	Reintegration	

Search Strategy

Searches were conducted using combinations of words and phrases from the ‘Search Terms’ table. The search strategies described below were conducted within each database listed above.

Two strategies were adopted:

The first search was for articles containing each ‘Health’ term with each ‘Occupational’ term.

Example of the first search strategy:

(mental health problems OR mental ill health OR mental illness OR depression OR anxiety OR stress OR sickness certification OR psychological well-being OR mental distress OR disability OR Psychiatric disorder OR Common mental disorder OR Side effects of medication OR Adjustment disorders OR Coping OR Psychological disorder OR Mental disorder OR Psychological problems OR Restoring function) **AND** (work OR employment OR occupati* OR sickness absence OR job retention OR workplace OR occupational health OR counselling OR cognitive behavioural therapy OR CBT OR employee assistance programmes OR EAP OR stress management OR psychosocial OR job retention services OR anti-discrimination OR anti-stigma OR workplace adjustments OR Accommodation OR Work readiness OR Work hardening OR Redeployment OR Return to work OR Employee health programme evaluation OR Capability OR Employability OR Workability OR Job Loss OR Work Loss OR Enablement OR Empowerment OR Reintegration)

The second search was for articles containing each ‘Health’ term with each ‘Occupational’ term and each ‘Context’ term.

Example of the second search strategy:

(mental health problems OR mental ill health OR mental illness OR depression OR anxiety OR stress OR sickness certification OR psychological well-being OR mental distress OR disability OR Psychiatric disorder OR Common mental disorder OR Side effects of medication OR Adjustment disorders OR Coping OR Psychological disorder OR Mental disorder OR Psychological problems OR Restoring function) **AND** (work OR employment OR occupati* OR sickness absence OR job retention OR workplace OR occupational health OR counselling OR cognitive behavioural therapy OR CBT OR employee assistance programmes OR EAP OR stress management OR psychosocial OR job retention services OR anti-discrimination OR anti-stigma OR workplace adjustments OR Accommodation OR Work readiness OR Work hardening OR Redeployment OR Return to work OR Employee health programme evaluation OR Capability OR Employability OR Workability OR Job Loss OR Work Loss OR Enablement OR Empowerment OR Reintegration) **AND** (intervention OR management OR rehabilitation OR help seeking OR case manag* OR preventi* OR policy OR risk OR primary care OR health and safety OR mental health policies OR integrated working OR audit OR productivity OR cost OR pace of change OR change)

Search Restrictions

All searches were restricted using the following criteria:

Only articles post 1980 included

Only adult populations

Only English language

Only occurrences of search terms in major descriptors or keywords

APPENDIX D: Critical Appraisal Form

Author, Title etc.

Study Type (tick all that apply)

Randomised controlled trial	()
Systematic review	()
Meta-analysis	()
Qualitative research	()
Literature review	()
Case study	()
Cohort study	()
Other	()
(please describe)	

SCREENING QUESTIONS

1. Does the paper have a clearly focused aim or research question? Yes () No () Can't tell ()

Consider:
population studied
interventions delivered
outcomes
relevance of research

2. Is the chosen method appropriate? Yes () No () Can't tell ()

Consider whether:
the authors explain their research design
the chosen method addresses the research question

Is it worth continuing? Yes () No ()
PLEASE EXPLAIN

DETAILED QUESTIONS

3. Has the research been conducted rigorously? Yes () No () Can't tell ()

Consider:
search strategy described
inclusions and exclusions
more than one researcher
resolving issues of bias

4. Is it clear how data has been analysed?

Yes () No () Can't tell ()

Consider:

*were study results combined
if so was this reasonable
in-depth description of
the analysis process
all participants accounted for
contradictory findings explained*

5. Is there a clear statement of findings?

Yes () No () Can't tell ()

Consider:

*sufficient evidence to support conclusions
do findings support the research question
precision of results
all important variables considered*

6. How are the results presented?

Consider:

*are the results presented numerically,
i.e. p-value, OR (odds ratio)
are the results presented narratively*

7. What is the main result?

Consider:

*how large is the size of the result
how meaningful is the result
how would you sum up the bottom-line
result in one sentence*

8. Are there limitations to the research?

Yes () No () Can't tell ()

Consider:

*was the sample size large enough
were all important outcomes considered
was the intervention process adequately described
was there any follow-up data
do the authors acknowledge weaknesses*

9. Can the results be applied to a UK context?

Yes () No () Can't tell ()

Consider:

*any discussion on how the findings can be used
findings considered in relation to current practice
estimation of benefits and costs*

ACCEPT FOR INCLUSION AS EVIDENCE Yes () No () Can't tell ()

REFER TO SCIENTIFIC SECRETARY Yes () No ()

APPENDIX E: Glossary from ILO 2000 Mental Health in the Workplace

As we said at the beginning of this review, the vocabulary associated with mental (ill) health is the subject of much discussion and debate. Terms are often used interchangeably, which can be confusing as well as inaccurate. It is therefore useful to attempt to define the vocabulary of mental health and to make distinctions. Specific countries use different terminology to refer to the same issue.

The following definitions and terminology are based on current usage by such organizations as the World Health Organization (WHO) and International Labour Office (ILO), participating countries in the situational analyses, and the European Union. This glossary is conceptually oriented and will give the reader the familiarity with the vocabulary of mental health used by international bodies and in the literature reviewed.

BURNOUT: This term is used most frequently in Finland to refer to job stressors and the resulting mental health problems that may occur. It is defined as a three-dimensional syndrome, characterized by energy depletion (exhaustion), increased mental distance from one's job (cynicism) and reduced professional efficacy.

DEPRESSION: Depression is an example of a mental disorder largely marked by alterations in mood as well as loss of interest in activities previously enjoyed. It affects more women than men, by a ratio of about 2 to 1. It is projected that up to 340 million people will suffer from depression in the near future. The risk of suicide is high amongst those suffering from depression. Yearly, over 800,000 deaths attributable to suicide are recorded worldwide. The majority of suicides are due to depression.

There is a great deal of information about the different types, causes and treatments of depression. However, it is important to realize that depression is not simple. There are different types and different degrees of each type. There is a high degree of variation among people with depression in terms of symptoms, course of illness, and response to treatment, all indicating the complexity and interacting causes of this illness. The most common form of depression is chronic unipolar depression (clinical depression). This category of depression has been frequently discussed and written about in the popular media in recent years, primarily due to new modalities of treatment.

Other types of depression recognized at this time are:

- Acute Situational Depression
- Dysthymia
- Bi-polar Depression (manic depressive disorder)
- Seasonal Affective Disorder (SAD)
- Post Partum Depression
- Depression secondary to other diseases or drugs.

DISABILITY MANAGEMENT: The process of effectively dealing with employees who become disabled is referred to as "disability management". Disability management means using services, people, and materials to (i) minimize the impact and cost of disability to the employer and the employee and (ii) encourage return to work of an employee with disabilities. It should be noted that the term "disability management" is not commonly used, despite the fact that practices understood to be within the scope of disability management processes are now taking place within enterprises of all sizes worldwide.

INTELLECTUAL DISABILITY: This disability is defined by a person's capacity to learn and by what they can or cannot do for themselves. People with this disability are identified by low scores on intelligence tests and sometimes by their poor social competence. The term mental retardation is also used to refer to a person with an intellectual disability and is the most common term used in the situation analyses.

JOB INSECURITY: Job insecurity can be defined as perceived powerlessness to maintain desired continuity in a threatened job situation or as a concern about the future of one's job.

JOB STRESS: Job stress can be defined as the harmful physical and emotional response that occurs when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury. Long-term exposure to job stress has been linked to an increased risk of musculoskeletal disorders, depression, and job burnout, and may contribute to a range of debilitating diseases, ranging from cardiovascular disease to cancer. Stressful working conditions also may interfere with an employee's ability to work safely, contributing to work injuries and illnesses. In the workplace of the 1990s, the most highly ranked and frequently reported organisational stressors are potential job loss, technological innovation, change, and ineffective top management. At the work unit level, work overload, poor supervision, and inadequate training are the top-ranking stressors.

The following are specific examples that may lead to job stress:

The design of tasks. Heavy workload, infrequent rests breaks, long work hours and shift work; hectic and routine tasks that have little inherent meaning, do not utilize workers' skills and provide little sense of control.

Management style. Lack of participation by workers in decision-making, poor communication in the organization, lack of family-friendly policies.

Interpersonal relationships . Poor social environment and lack of support or help from co-workers and supervisors.

Work roles. Conflicting to uncertain job expectations, too much responsibility, too many "hats to wear."

Career concerns. Job insecurity and lack of opportunity for growth, advancement or promotion; rapid changes for which workers are unprepared.

Environmental conditions. Unpleasant or dangerous physical conditions such as crowding, noise, air pollution, or ergonomic problems.

MENTAL DISORDERS: Mental disorders are health conditions characterized by alterations in thinking, mood or behaviour (or some combination thereof) associated with distress and/or impaired functioning. Mental disorders are associated with increased mortality rates. The risk of death among individuals with a mental disorder is several times higher than in the population as a whole.

MENTAL HEALTH: Though many elements of mental health may be identifiable, the term is not easy to define. The meaning of being mentally healthy is subject to many interpretations rooted in value judgements, which may vary across cultures. Mental health should not be seen as the absence of illness, but more to do with a form of subjective well-being, when individuals feel that they are coping, fairly in

control of their lives, able to face challenges, and take on responsibility. Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people and the ability to adapt to change and to cope with adversity specific to the individual's culture.

MENTAL HEALTH PREVENTION: Prevention is based on specific knowledge about causal relationships between an illness and risk factors. Prevention results in measurable outcomes. Within the context of the workplace, prevention is concerned with taking action to reduce or eliminate stressors. Prevention and promotion are overlapping and related activities. Promotion can be simultaneously preventative and vice versa.

MENTAL HEALTH PROBLEMS: The vast majority of mental health problems are relatively mild, though distressing to the person at the time, and if recognized can be alleviated by support and perhaps some professional help. Work and home life need not be too adversely affected if the appropriate help is obtained. In the situation analyses, the terms mental health problems and mental health difficulties are used interchangeably.

MENTAL HEALTH PROMOTION: Mental health promotion is a multidimensional concept that implies the creation of individual, social, and environmental conditions, which enable optimal overall psychological development. It is especially focussed, among other concerns, on personal autonomy, adaptability, and ability to cope with stressors, self-confidence, social skills, social responsibility, and tolerance. Prevention of mental disorders could be one of its outcomes.

MENTAL ILLNESS: Mental illness refers collectively to all diagnosable mental health problems which become "clinical," that is where a degree of professional intervention and treatment is required. Generally, the term refers to more serious problems, rather than, for example, a mild episode of depression or anxiety requiring temporary help. The major psychotic illnesses, such as endogenous depression, schizophrenia, and manic depressive psychosis, would fall in this category and would be seen less often in the workplace. Mental illness is sometimes referred to as psychiatric disability. This term is used primarily in the United States.

MENTAL STRAIN: This term is used in the German situational analysis to refer to psychological stress that impacts everybody in all realms of life.

POST TRAUMATIC STRESS DISORDER: PTSD or post-traumatic stress disorder can occur as an acute disorder soon after a trauma or have a delayed onset in which symptoms occur more than 6 months after the trauma. It can occur at any age and can follow a natural disaster such as flood or fire or a man-made disaster such as war, imprisonment, assault, or rape.

REHABILITATION: A process aimed at enabling persons with disabilities to regain and maintain their optimal physical, sensory, intellectual, psychiatric, and/ or social functional levels, by providing them with tools to change their lives towards a higher level of independence. Rehabilitation may include measures to provide and/ or restore functions or compensate for the loss or absence of a function or for a functional limitation. The rehabilitation process does not involve initial medical care. It includes a wide range of measures and activities from more basic and general rehabilitation to goal-oriented activities, or instance vocational rehabilitation.

STIGMA: Stigma can be defined as a mark of shame, disgrace, or disapproval, which results in an individual being shunned or rejected by others. The stigma associated with all forms of mental illness is strong but generally increases the more an individual's behaviour differs from that of the 'norm.'

STRESS: Stress is defined as a non-specific response of the body to any demand made upon it which results in symptoms such as rise in the blood pressure, release of hormones, quickness of breath, tightening of muscles, perspiration, and increased cardiac activity. Stress is not necessarily negative. Some stress keeps us motivated and alert, while too little stress can create problems. However, too much stress can trigger problems with mental and physical health, particularly over a prolonged period of time.

WORKABILITY: Individuals' work ability is based on their, physical, psychological and social capacity and professional competence, the work itself, the work environment, and the work organization. This term is often used in Finland in the world of work.

APPENDIX F

Severe mental illness as defined in the National Service Framework for Mental Health

- There must be a mental disorder as designated by a mental health professional (psychiatrist, mental health nurse, clinical psychologist, occupational therapist or mental health social worker) **and either**

- There must be a score of 4 (very severe problem) on at least one, or a score of 3 (moderately severe problem) on at least two of the HoNOS items 1-10 (excluding item 5 “physical illness or disability problems”) during the past six months **or**

- There must be significant levels of service usage over the past five years as shown by:
 - a total of six months in a psychiatric ward or day hospital, or
 - three admissions to a hospital or day hospital or
 - six months of psychiatric community care involving more than one worker or the perceived need for such care if unavailable or refused