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Product

Appendix 9 A Report on Work Package 05 -  
Designing the Work Directed Intervention  
Programme

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# Literature Review on Work Directed Stress Management Interventions

## **1.0 Introduction**

In order to inform the design of the work directed stress management intervention (Workpackage 05), a literature review was conducted to identify best practice in terms of interventions and assessment tools (Deliverable 16). Necessary supports for the establishment of work directed programmes were also identified for this review.

Section 1.1 will discuss the criteria for selecting studies for inclusion in this review. The search strategy for the identification of studies will be outlined in Section 1.2. Section 1.3 presents a review of the causes and nature of stress in the organisational environment, including stress amongst care health professionals and specifically to those who work in the mental health profession. Section 1.4 will provide discussion on the organisation as the 'generator' of stress. Literature which focuses on organisational level interventions will be presented in Section 1.5. Section 1.6 will consider a problem-solving approach for the management of stress. A risk assessment approach for the reduction and elimination of stress will be reviewed in Section 1.7. Training and support as a stress management intervention will be discussed in Section 1.8. A common feature of work directed interventions was the issue of control, and this will be examined in Section 1.9. Section 1.10 will examine the environmental assessment tools which were identified in the literature. Finally, literature identifying supports for implementation of stress management interventions will be presented in Section 1.11.

Previous reviews which have been conducted have been largely generic, and although some have focused on the area of mental health, there has been a paucity of research on specialist areas in mental health (Rees & Smith, 1991), such as the vocational and rehabilitation sector. Therefore, literature across all health care settings, with specific emphasis on studies which were conducted among mental health professionals were included in this review (see Appendix 1 for Search strategy)

The review was conducted utilising the Cochrane review on preventing occupational stress in health care workers, and by examining other reviews conducted among health care professionals to identify the most effective stress management techniques for the organisational environment, and the most relevant environmental assessment tools (van der Hek & Plomp, 1997; Mimura & Griffiths, 2002; Marine *et al.*, 2006; Edwards & Burnard, 2003; Edwards *et al.*, 2002; Michie & Williams, 2002; Fothergill *et al.*, 2004) (see Appendix 2 for Criteria for considering studies for this review). Although there a large number of studies on the management of stress, studies evaluating the effectiveness of these stress management programmes are notable by their absence (van der Hek & Plomp).

This review will not only evaluate effective work-directed interventions to manage stress, but will also review the nature and causes of organisational stress, and the effect this has on the employee and the organisation. In order to implement stress management techniques in the workplace, it is necessary to identify the organizational hazards<sup>1</sup> that contribute to stress.

### **1.3 Organisational hazards**

The European Agency for Safety and Health at Work (Cox *et al.*, 2000) identified both physical and psychosocial hazards in the workplace as being linked to stress. Physical hazards include factors such as noise and poor physical work environments. Literature suggests that physical hazards do not only interact with one another in producing their effects, they may also interact with psychosocial hazards (Melamed *et al.*, 1999; Schrijvers *et al.*, 1998). For instance, Broadbent (1971) described how noise and sleep loss might interact in relation to task performance.

The International Labour Organization (ILO) (1986) defines psychosocial hazards in terms of the interactions among job content, work organisation and management, environmental and organizational conditions, as well as the employees competencies and needs. Those interactions which may prove hazardous influence employees' health

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<sup>1</sup> A hazard is defined as 'the intrinsic property or ability of something (e.g. work materials, work equipment, work methods and practices) with the potential to cause harm' (European Commission, 1996).

through their perceptions and experiences (ILO, 1986). Whilst this definition is consistent with transactional models of stress, it strongly associates exposure to psychosocial stressors with experience of stress. It may be argued that psychosocial hazards may have direct effects on the person, effects which are not mediated by the experience of stress. Cox & Griffiths (1995) provide an alternative definition of psychosocial hazards. They define psychosocial hazards as “those aspects of work design and the organisation and management of work, and their social and environmental contexts, which have the potential for causing psychological, social or physical harm” (Cox & Griffiths, 1995).

With the emergence of psychosocial work environment research and occupational psychology in the 1960's (Johnson & Hall, 1996) the focus of interest has moved away from the traditional individual perspective and towards considering the impact of certain aspects of the work environment on health. There is now a large body of evidence (e.g. Cox, 1993; Landy *et al.*, 1994; Kasl, 1987, 1990) that identifies a common set of work characteristics as potentially hazardous.

There is consensus among the various attempts to review literature on those psychosocial hazards of work which are experienced as stressful and/or otherwise carry the potential for harm (Baker, 1985; Blohmke & Reimer, 1980; Cooper & Marshall, 1976; Cox, 1978, 1985; Cox & Cox, 1993; Frankenhauser & Gardell, 1976; Karasek & Theorell, 1990; Kasl, 1992; Levi, 1972, 1984; Levi *et al.*, 1986; Loher *et al.*, 1985; Marmot & Madge, 1987; National Institute, 1988; Sauter *et al.*, 1992; Sharit & Salvendy, 1982; Szabo *et al.*, 1983; Warr, 1987, 1992). This consensus is summarized in ten difference categories of job characteristics, work environments and organisations which may be hazardous, and these categories relate to either the work context or the work content (Cox *et al.*, 2000). These include: organizational culture and function; role in organisation; career development; decision latitude/control; interpersonal relationships at work; home-work interface; work environment and work equipment; task design; workload/workpace; and work schedule (see Table 1.1).

**Table 1.1:** Factors associated with work-related stress (adapted from Cox *et al.*, 2000)

Category	Hazards
<b>Work context</b>	
Organisational culture and function	Poor communication, low levels of support for problem-solving and personal development, lack of definition of organizational objectives.
Role in organisation	Role ambiguity and role conflict, responsibility for people.
Career development	Career stagnation and uncertainty, under-or over-promotion, poor pay, job insecurity, low social value to work.
Decision latitude/control	Low participation in decision-making, lack of control over work (control particularly in the form of participation, is also a context and wider organizational issue.
Interpersonal relationships at work	Social or physical isolation, poor relationships with superiors, interpersonal conflict, lack of social support.
Home work interface	Conflicting demands of work and home, low support at home, dual career problems.
<b>Work content</b>	
Work environment and work equipment	Problems regarding the reliability, availability, suitability and maintenance or repair of both equipment or facilities.
Task design	Lack of variety or short work cycles, fragmented or meaningless work, under-use of skills, high level of uncertainty.
Workload/workpace	Work overload or underload, lack of control over pacing, high levels of time pressure.
Work schedule	Shift working, inflexible work schedules, unpredictable hours, long or unsocial hours.

### 1.3.1 Occupational Stress in the Health Care Profession

A literature review conducted by Michie & Williams in 2002, indicated that key work factors associated with psychological ill health and sickness absence in staff were long

hours worked, work overload and pressure, and the effects of these on personal lives (Driscoll *et al.*, 1995; Frone *et al.*, 1995; Karasek, 1979; Niedhammer *et al.*, 1998; Payne & Fletcher, 1983; Reifman *et al.*, 1991; Stansfeld *et al.*, 1995); conflicting demands (Stansfeld *et al.*, 1995); lack of control over work and lack of participation in decision-making (Frone *et al.*, 1995; Karasek, 1979; Karasek, 1990; Niedhammer *et al.*, 1998; Payne and Fletcher, 1983; Sparks & Cooper, 1999; Stansfeld *et al.*, 1995, 1998); poor social support at work (Driscoll *et al.*, 1995; Frese, 1999; Fusilier *et al.*, 1987; LaRocco *et al.*, 1980; Niedhammer *et al.*, 1998; Reifman *et al.*, 1991; Stansfeld *et al.*, 1995, 1998); unclear management and work role (Bacharach *et al.*, 1991; Carayon *et al.*, 1995; Frone *et al.*, 1995; LaRocco *et al.*, 1990; Reifman *et al.*, 1991); interpersonal conflict (Sparks & Cooper, 1999; Romanov *et al.*, 1996); and conflict between work and family demands (Sparks & Cooper, 1999).

Several explanations have been put forward in the literature for the high levels of ill health in the health care environment, including the nature of the work, organisational changes, and the large amounts and pressure of work (Cox 1995). Commonly identified sources of stress are workload, patient care, interpersonal relationships with colleagues, knowledge of nursing and nursing skills, type of nursing, and bureaucratic-political constraints (Bailey, 1985).

A comparison across UK hospitals in the public sector found that rates of psychological ill health varied from 17% to 33% with lower rate in hospitals characterised by smaller size, greater cooperation, better communication, more performance monitoring, a stronger emphasis on training, and allowing staff more control and flexibility in their work (Wall, 1997). This supports the notion that organisational factors may contribute to the level of psychological ill health experienced by staff.

According to a study conducted by McGrath and colleagues (2003) amongst 171 nurses, on occupational stress in nursing, the most commonly cited stressor by nurses was too little time to perform duties to the person's satisfaction and rationing of scarce resources or services. Nearly half of the respondents mentioned the meeting of imposed deadlines

as a source of stress, and over a third found counteracting, unhelpful views others held of their job a cause of stress. A significant finding from this study was that nurses tried to alleviate stress in their jobs through avoidance behaviours. The study clearly suggests that nurses are avoiding the emotional demands of patients as evidenced by 27% who report this as a cause of stress. It is suggested that a coping mechanism specific to nursing may be that nurses unconsciously reduce stress in their job by setting nursing objectives as physical objectives in their job.

In the context of the transnational nature of the ROSE project, Michie & Williams (2002) review on reducing work related psychological ill health and sickness absence was particularly significant, as it provided an assessment of whether associations between work factors and psychological ill health were similar across sector and across countries. In the UK factors associated with psychological distress, emotional exhaustion, anxiety and depression in doctors, from junior to senior grades, were long working hours (Baldwin *et al.*, 1997), high workload and pressure at work (Agius *et al.*, 1996; Deary *et al.*, 1996; Sutherland and Cooper, 1993), and lack of role clarity (Heyworth *et al.*, 1993). In a study conducted with 4 dentists, pressure at work was found to be associated with poor mental health (Cooper *et al.*, 1988). In a study carried out amongst family doctors, the issues were interruptions during and outside surgery hours and patients demands (Sutherland and Cooper, 1993). Among UK nurses the most frequently reported source of psychological distress was workload pressures (Tyler and Cushway, 1992). In a study conducted amongst 164 student nurses, low involvement in decision making and use of skills, and low social support at work were found to be associated with anxiety, depression and sickness absence (Parkes, 1982). Two studies looked at absence from work, one study found a negative association with job demands (Parkes, 1982), while the other found no association with control over work (Rees & Cooper, 1992). Similar factors were associated with psychological ill health in health care workers in the rest of Europe, the USA, and Australia. The one study of doctors found an association between work control and social support and psychological distress (Johnson *et al.*, 1995). Among nurses, lack of co-worker support (Marshall & Barnett, 1992; Pisarski *et al.*, 1998), job influence (Pettersson *et al.*, 1995), and organisation climate and role ambiguity

(Revicki & May, 1989) were associated with psychological distress. Among other hospital workers, work overload and pressure, role ambiguity, lack of control over work, and lack of participation in decision making were all found to be associated with distress (Arsenault *et al.*, 1991; Estryn-Behar *et al.*, 1990; Martin, 1984). Sickness absence was associated with work pressures and lack of training (Landeweerd & Boumans, 1992), unsupportive management style (Gray-Toft & Anderson, 1985), role ambiguity, tolerance of absenteeism and low pay (Brooke & Price, 1989).

The studies show that, while level of psychological ill health associations between work factors and psychological ill health are higher in health care than in non-health care workers (Wall, 1997), the associations between work factors and psychological ill health are similar. They are also similar across continents. This review suggests that a generic approach to reducing work related psychological ill-health may be appropriate. The findings from this review are also consistent with the demand-control model of job strain (Karasek, 1979). They highlight the 6 key areas of work design that commonly lead to stress (i.e. control, demands, support, relationships, role and change).

### **1.3.2 Occupational Stress in Mental Health Professionals**

There have been a number of studies which have looked at the issue of stress for mental health professionals (see Table 1.2). As we can see from Table 1.2, stress-related research is frequently based on a theoretical model, such as the 3 levels of the stress process (i.e. stressors, moderators and outcomes) proposed in the model developed by Carson and Kuipers (1998). Research indicates that mental health professionals experience high levels of 'burnout' and poor mental health as compared with other occupational populations (Carson *et al.*, 1995; Onyett *et al.*, 1995; Prosser *et al.*, 1996; Wykes *et al.*, 1997). Moore and Cooper (1996) presented a theoretical overview of this subject. Findings indicate that although mental health professionals are subjected to similar organisational stressors as other workers, they experience additional emotional strain by the very nature of their professions in dealing with troubled persons often over extended periods of time (Nolan *et al.*, 1995). Similar findings are reported in a later study by Jenkins & Elliott (2004), who found that although many of the stressors

experienced by mental health professionals are similar to other health care specialities, a number of demands relate specifically to the mental health profession. These include the intense nature of interaction between the client/mental health professional relationship (Cronin-Stubbs & Brophy, 1985), dealing with difficult and challenging behaviour on a regular basis (Sullivan, 1993), and service changes in the mental health profession.

Fagen *et al.* (1996) also identified recent service changes in the mental health profession as being a significant cause of stress amongst mental health nurses. There has been a transition from the traditional hospital based setting to the delivery of care in the community setting. Research indicates that community mental health nurses experience significantly higher level of stress than their ward based counterparts (Carson *et al.*, 1995; Fagin *et al.*, 1995). Other major sources of stress amongst mental health professional identified in the literature include, administrative and organisational factors and lack of consultation over work-related changes (Dawkin *et al.*, 1985), inadequate staffing levels (Carson *et al.*, 1995; Cushway *et al.*, 1996), and dealing with potentially violent an/or suicidal clients (Sullivan,1993). However, the empirical evidence indicates that it is the administrative and organisational factors which cause most stress in psychiatric nursing (Cronin-Stubbs & Brophy,1984; Dawkins *et al.*, 1985; Jones *et al.*, 1987).

A number of reviews have focused on literature in the area of stress in mental health nurses (Jones, 1987; Sullivan, 1993; Dunn & Ritter, 1995; Edwards & Burnard, 2003), and amongst other mental health professionals (Carson & Fagin, 1996; Fothergill *et al.*, 2004; Hannigan *et al.*, 2004;). Edwards and Burnard (2003) found that the most frequently reported souces of stress amongst mental health nurses were administrative and organisational concerns, client-related issues, heavy workload, interpersonal conflict, financial and resource issues, professional self-doubt, home/work conflict, staffing levels, changes in the health service, maintenance of standards and poor supervision. Findings from a systematic review on occupational stress in psychiatrists (Fothergill *et al.*, 2004) indicate that psychiatrists also experience significant levels of stress. Specific stressors

included overwork, management and resource issues, personal stresses, lack of time, organisational changes, lack of administrative support and low pay.

A number of studies have also been carried out amongst community mental health teams (Harper & Minghella, 1997; Oliver & Kuipers, 1996; Onyett *et al.*, 1997; Parkes & von Rabenall, 1993; Prosser *et al.*, 1996, 1997, 1999; Reid *et al.*, 1999, 1996; Wykes *et al.*, 1997). Evidence indicated that stressors included increased workload and administration, working structures, lack of resources, management problems and managing crises alone. Studies also suggest that particularly high levels of the 'emotional exhaustion' component of 'burnout' have been reported among staff based in a community rather than a hospital setting (Carson *et al.*, 1995; Prosser *et al.*, 1996).

These findings are particularly significant because they suggest the workplace adversely affects the psychological well-being of staff working in the mental health profession. This is particularly significant as the delivery of high quality mental health services and the rehabilitation and recovery of people with mental health problems is dependent on the availability of experienced personnel.

There is a need for more interventions for the prevention and management of stress in the mental health profession, particularly in the areas such as the vocational and rehabilitation sector where interventions have not yet been implemented. There is also a need for more studies on stress in specialist areas in mental health. Although there have been a large number of studies conducted on workplace stress, particularly in the health care setting, Rees and Smith (1991) indicated that there is a paucity of research on comparatives of stressors experienced by different mental health professionals, for instance, those working in areas such as mental health rehabilitation. This is particularly significant as the literature reports increasingly high levels of stress and burnout among mental health professionals, and there are now increasing demands on specialist areas in mental health such as mental health rehabilitation. This is a result of mental health policy and an increased emphasis on the recovery model in the mental health services where employment is highlighted as important in rehabilitation and recovery (European

Commission, 2005; Mental Health Commission, 2006; European Parliament, 2008). It is projected that there will be increased demands for vocational and rehabilitation services for the future of social inclusion of people with mental health problems. This may result in increased pressure on staff. Current literature focusing on stressors in specialist areas in mental health is notable by its absence.

**Table 1.2:** Research studies among mental health professionals that consider stressors, moderators and stress outcomes

Author & Year	Sample & Location of Study	Response	Outcome Measures	Instruments Used	Stressors
Cushway <i>et al.</i> (1996)	220 psychologists	154 (70%)	Stressors	Development of mental Health Professionals Stress Scale, Symptom check list-18.	Professional self doubt
	210 mental health nurses West Midlands Regional Health Authority	111 (53%)	Moderators	Purpose designed questionnaire	Workload
Fagin <i>et al.</i> (1995)	Community mental health nurses working in 4 health districts, UK*	245 (80% approx)	Stressors	Community Psychiatric Nurse Stress Questionnaire	Not having enough facilities in the community
	Ward based mental health nurses working in 2 district psychiatric hospitals, UK* *sample size not specified	323 (20% approx)	Moderators Burnout Job Satisfaction Psychological Distress	Occupational Stress Indicator-Cooper Coping Skills Indicator (Cooper <i>et al.</i> , 1998) Rosenberg Self-Esteem Scale (Rosenberg, 1965) Maslach Burnout Inventory (Maslach & Jackson, 1986) Minnesota Job Satisfaction Scale (Weiss <i>et al.</i> 1967) General Health Questionnaire, Version 28 (Goldberg & Williams, 1998)	Task strategies Low self-esteem
Fagin <i>et al.</i> (1996)	Ward based mental health nurses*	317 (20% approx)	Stressors	Community Psychiatric Nurse Stress	Inadequate staffing to cover potentially dangerous

	<p>Qualified nurses from 2 large asylums, UK*</p> <p>2 mental health *hospitals, UK</p> <p>Community mental health nurses and ward based mental health nurses working between 2 health authorities, UK</p> <p>*sample size not specified</p>	<p>145 (46%)</p> <p>186 (47%)</p> <p>82 community mental health nurses 59 (72%)</p> <p>150 ward based community mental health nurses 67 (45%)</p>	<p>Moderators</p> <p>Burnout</p>	<p>Questionnaire</p> <p>Occupational Stress Indicator-Cooper Coping Skills Indicator (Cooper et al., 1998)</p> <p>Rosenberg Self-Esteem Scale (Rosenberg, 1965)</p> <p>Maslach Burnout Inventory (Maslach &amp; Jackson, 1986)</p> <p>Minnesota Job Satisfaction Scale (Weiss et al. 1967)</p> <p>General Health Questionnaire, Version 28 (Goldberg &amp; Williams, 1998)</p> <p>The De Villiers, Carson, Leary Stress Scale (Carson, 1997)</p>	<p>situations</p> <p>Health service changes</p> <p>Poor morale</p> <p>Not been notified of changes before they occurred</p> <p>Task strategies</p>
Reid <i>et al.</i> (1999)	30 mental health staff from 3 South London geographical sectors, UK	n/a	Moderators	Semi-structured interview schedule	<p>Informal contacts with colleagues,</p> <p>Time management techniques,</p> <p>Individual supervision,</p> <p>Staff support groups,</p> <p>Further training (in clinical interventions and in diffusing potentially confrontational and aggressive situations).</p>

Prosser <i>et al.</i> (1997)	121 Community, Hospital, UK	76%	Stressors	n/a	Increased workload Increased administration
Prosser <i>et al.</i> (1996)	121 community and hospital-based mental health staff, UK	76%	Burnout Job Satisfaction Psychological Distress	Maslach Burnout Inventory (Maslach & Jackson, 1986)  General Health Questionnaire, Version 12 (Goldberg & Williams, 1998)  Job satisfaction measure	Community workers experienced higher levels of burnout and psychological distress but there were no differences in levels of job satisfaction
Harper & Minghella (1997)	55 community-based mental health staff, UK	83%	Sources of stress  Job satisfaction	n/a	Working structures Lack of resources Management problems  Seeing the patient improve Seeing the service improve Working with teams
Onyett <i>et al.</i> (1997)	455 members of the community mental health team, UK	51%	Sources of stress  Factors associated with burnout	Maslach Burnout Inventory (Maslach & Jackson, 1986)  Job satisfaction scale taken from the Occupational Stress Indicator (Cooper, Sloan & Williams, 1988)  Personal clarity and term role clarity were measured using scales based on the Role Ambiguity Scale (Rizzo, House & Lirtzman, 1970)  Personal and team	Lack of resources Management problems Increased administration  Caseload size

				identification scales were based on a scale developed by Brown <i>et al.</i> , (1986)	
Reid <i>et al.</i> (1999)	30 community and hospital-based mental health staff, UK	Not stated	Sources of stress  Sources of job satisfaction	n/a	Increased workload Acting as a keyworker for patients Managing crises alone  Working with patients Contact with colleagues
Prosser <i>et al.</i> (1999)	Community and hospital-based mental health staff 120 (phase 1) 100 (phase 2) 94 (phase 3)	75% 60% 62%	Levels of burnout, job dissatisfaction and psychological distress	Maslach Burnout Inventory (Maslach & Jackson, 1986)  General Health Questionnaire, Version 12 (Goldberg & Williams, 1998)  A general job satisfaction measure	Community workers Decrease in psychological distress Decrease in emotional exhaustion & depersonalization Increase in job satisfaction
Reid <i>et al.</i> (1996)	30, Convenience sample, Community and hospital-based mental health staff, UK	n/a	Coping strategies	n/a	Talking to colleagues Time management Workload management Clinical supervision
Wykes <i>et al.</i> (1997)	61, Community, UK	Not stated	Stress & Burnout	Maslach Burnout Inventory (Maslach & Jackson, 1986)  General Health Questionnaire, Version 28 (Goldberg & Williams, 1998)  Beck Anxiety Inventory (Beck, 1990)	High levels of burnout experienced as a result of work based stressors

				The Daily Hassle Scale (Kanner <i>et al.</i> , 1981; Lazarus & Folkman, 1989)	
Oliver & Kuipers (1996)	10, Randomised control trial, Community, UK	n/a	Levels of expressed emotion, psychological distress, burnout and job satisfaction	n/a	Staff displayed a high range of expressed emotion responses and scored highly on measures of stress, burnout and experiences high levels of job satisfaction
Parkes & von Rabenau (1993)	145, Community and hospital-based mental health staff, UK	90%	Negative affectivity, job demand, job discretion and social support	n/a	Jobs classed as high strain were shown to give rise to adverse psychological outcomes, while active jobs are conducive to successful coping, satisfaction, and the development of mastery and competence
Carson <i>et al.</i> (1995)					
Nolan <i>et al.</i> (1995)	210 community and hospital mental health nurses	Not stated	Stressors	Mental Health Professional Stress Scale	The most consistent predictor of poor mental health outcomes for nurses was home/work conflict, outweighing the significance of client/patient-related difficulties
Jenkins & Elliott (2004)	Convenience sample of 57 qualified nurses and 36 nursing assistants from 11 acute adult mental health wards	100%	Stressors and burnout, social support	Mental Health Professionals Stress Scale  Maslach Burnout Inventory (Maslach & Jackson, 1996)  House and Wells Social Support Scales (House &	Lack of adequate staffing was the main stressor reported by qualified staff; dealing with physically threatening, difficult or demanding patients was the most stressful aspect for non-qualified staff; qualified staff reported significantly

				Wells, 1978)	higher workload stress than unqualified staff.
Cronin-Stubbs & Brophy (1985)					
Sullivan (1993)	78, trained psychiatric nurses working in the acute psychiatric in-patient facilities of two health authorities-a total of 8 wards	Not stated	Stressors, burnout and coping	Psychiatric Nursing Stress Inventory Maslach Burnout Inventory A coping questionnaire	Correlation between burnout and problems relating to staffing levels, administrative duties and work overload  Participants used both problem solving and emotion-focused coping  Problem focused coping were positively correlated with feelings of personal accomplishment and negatively correlated with the experience of stress, whilst emotion-focused coping was positively correlated with emotional exhaustion
Dawkin <i>et al.</i> (1985)					

#### **1.4 The organisation as the ‘generator’ of stress**

Traditionally, the focus of stress-related research has been on employees’ adaptation to their work and work environments, and individual differences in the process of adaptation and coping (Gardell, 1982). However in recent years there has been a shift in interest (Johnson & Hall, 1996) from how individual employees cope with stress towards concern for the design and management of their work of one source of their problems (Cox *et al.*, 2000). The organisation has been identified in the literature as a ‘generator’ of stress related illness (Cox *et al.*, 2007). However, there is evidence to suggest that organisational level interventions are the least common and that few have been evaluated as effective (Cox *et al.*, 2007).

Occupational health and safety legislation at national and EU level and EU policy documents has identified factors in the work environment as contributing to stress. Legislation has been broadened to include psychosocial hazards as a contributor to stress. The European Parliament Draft Report on Mental Health (2008) has identified the work environment as a contributor to stress. The European Parliament calls on employers to promote a healthy working climate, paying attention to work-related stress, the underlying causes of mental disorder at the workplace, and tackling those causes. It encourages employers, as part of their health and safety at work strategies, to adopt programmes to promote the emotional and mental wellbeing of their workers and calls on the Commission to disseminate positive models by publishing such programmes on the internet.

#### **1.5 Organisational-level interventions**

A review of the literature that focuses on organisational-level interventions was conducted in order to identify best practice in terms of interventions and assessment include interventions directed at factors at work, or work-directed interventions containing measures to change the working environment, work tasks or working methods included interventions aimed at decreasing workload or changing the organisation of the work (see Table 1.3, for a summary of studies that focus on organisational level

interventions). Models identifying 3 distinct sets of objectives have been adopted by organisations in the management of work-related stress (Cox *et al.*, 1990; Dollard & Winefield, 1998). Objectives include prevention (control of hazards and exposure to hazards by design and worker training to reduce likelihood of those workers experiencing stress; timely reaction (based on management and group problem solving); and rehabilitation (offering support to help workers cope with and recover from problems which exist) (Cox *et al.*, 2000). Cox and colleagues (2000) suggest that the reduction of stress through the elimination and control of hazards appears to be the most promising area for intervention. This is often achieved through adoption of a problem-solving approach which is a form of risk management. This view is also reflected by Murphy and colleagues (1992), who conclude that “job redesign and organisational change remain the referred approaches to stress management because they focus on reducing or eliminating the sources of the problem in the work environment”. Van der Hek & Plomp (1997) also concluded that “there is some evidence that organisation-wide-approaches show the best results on individual, individual-organisational interface and organisational parameters (outcome measures); these comprehensive programmes have a strong impact on the entire organisation, and require the full support of management”. Edwards & Burnard (2003) suggest that the first step in managing stress effectively is to eliminate or minimize the stressors themselves. However, in order to achieve this, management strategies must be proactive rather than reactive with respect to the organisational environment, and there is a lack of research into interventions at organisational level.

Many reviews have found that most stress management techniques are individual focused, and attempt to change the worker as opposed to the organisation. For example, Murphy and colleagues (1984) reviewed thirteen published and unpublished studies on personal stress management. Of the 32 outcome measures used in the thirteen studies, 27 related to the individual and only 3 to the organisation. Williamson (1994) found that out of 24 evaluative studies of stress interventions, 21 focused on the individual, and only 3 focused on change at organisational level. A Cochrane review on preventing occupational stress in health care workers included 19 studies, 13 on which were focused on person-directed interventions and 6 on interventions which focused on the

organisation (Marine *et al.*, 2009). Work-directed interventions included in the review focused on attitude change and communication, support from colleagues and participatory problem solving and decision-making, and changes in work organisation. However, most of the studies included in the review were small and of poor quality. The general absence of literature on stress management interventions which focus on the organisation reflects a generalised gap in the literature. It is unlikely that individual directed interventions will lead to a long term reduction in stress amongst employees unless organisational procedures are also in place to reduce or prevent environmental stressors (Kenny, 2005).

Other studies indicate that work-directed interventions consist of selection and placement, training and education, interpersonal skill development in managers, work environment changes, and job redesign and restructuring (Giga *et al.*, 2003; Kenny & McIntyre, 2004; Morrison & Payne, 2003). Cotton and Hart (2003) argue that workplaces can address organisational factors impacting on morale through provision of supportive organisational climate and appropriate leadership behaviours. The ROSE project will include guidelines for the manager on effective leadership, outlining the different leadership styles, allowing the manager to identify their own leadership style. They will be able to access and assessment tool to assess their own behaviour to see how effective they are in preventing and reducing stress in the workplace.

Delvaux (2004) and Razavi (1993) used psychological training programmes with theory, role playing and experimental exchanges intended to improve attitudes, communication skills and occupational stress. Heaney (1995) ran a training program about mobilizing support from colleagues and about learning participatory problem solving and decision-making skills. Melchior (1996), Proctor (1998) and Schrijnemaekers (2003) employed interventions that introduced innovations in nursing delivery via changes in work organisation, knowledge and skills training and support and advice from supervisors.

**Table 1.3:** Summary of studies which focus on organisational level interventions

Author & Year	Country	Sample Size & Type	Aim of Study	Key Interventions	Findings
Cox <i>et al.</i> (2007)	UK	n/a	To consider some of the philosophical and methodological issues raised by evaluation research in relation to organizational-level interventions for work-related stress.	Risk management approach. Evidence based problem solving which is a form of risk management.	Organisation seen as the ‘generator’ of stress related illness. Organizational level interventions are least common with few evaluation of effectiveness. Argues for a more conceived and eclectic scientific framework for intervention evaluation than traditional research methods.
Jones <i>et al.</i> (1988)	US	Medium sized hospital with approx 700 employees.	To examine the impact of an organization-wide stress management program on the reduction of medical errors.	Policy and procedural changes to manage stress (interdepartmental communication, organization, and personnel polices. Employee feedback and action plans to manage stress.	Fewer medication errors following the stress management intervention.
Golembiewski <i>et al.</i> (1987)	US	31 HR staff in a corporation	The program aimed to develop a socio-emotional infrastructure to generate and support changes in policies, procedures and structures.	Organizational development effort using theory-driven interventions. All members of organization were involved in the diagnosis and solution of problems. Employees listed 3 things they considered best in the organization, 3 things they considered worst and urgently in need of change. Outcomes were discussed and	Reduction in level of burnout and improvement of group properties and turnover rates.

				recommendations made. The objective was to formulate values and to create appropriate provision and relationships for support in work and tasks.	
Proctor <i>et al.</i> (1998)	UK	Staff in 12 care homes (6 receiving training and 6 acting as controls)	To examine the effect of a providing structured training and a regular support programme over a 6 month period.	Educational schedule that introduced a changed nursing method-employed interventions that introduced innovations in nursing delivery via changes in work organisation, knowledge and skills training and support and advice from supervisors.	Significant increase in stress levels in the control group. No significant increase in stress levels among the treatment group. Intervention is possibly effective for reducing stress level.
Berg <i>et al.</i> (1994)	Sweden	Nurses on 2 wards who worked with severely demented patients: experimental ward (19 nurses); control ward (20 nurses).	To test the effect of introducing individualized nursing care.	Environmental management-systematic clinical supervision combined with the implementation of individualized care.	Change in stress level in the treatment group on all subscales, however, statistically non-significant-may be due to small sample size. Findings point to the necessity for a support system that focus on the work itself.
Hallberg & Norberg (1993)	Sweden	Nurses on an experimental ward (n=19) and on a control ward (n=19)	To explore nurses' views on the characteristics of severe demented patients, the difficulties these characteristics produced and the emotional reactions they evoked during the provision of care. It also aimed to explore any changes in these aspects during a year of regular systematic clinical supervision combined with the implementation of	Environmental management	The intervention seemed to improve the nurse-patient relationship and decrease the experience of strain in nurses.

			individualized care at an experimental ward and a control ward.		
Melchior <i>et al.</i> (1996)	Netherlands	Cohort of 161 psychiatric nurses in long stay settings.	To examine the effect of introducing primary nursing in hospital wards.	Support and advice given by nurse managers or quality care coordinators-Changing the work environment-employed interventions that introduced innovations in nursing delivery via changes in work organisation, knowledge and skills training and support and advice from supervisors.	Stable stress level at pre- and post-treatment in both treatment and control groups. There was imitation of the intervention by the control group due to information leakage. It is therefore impossible to draw conclusions.
Schrijnemaekers (2003)	Netherlands	300 professional caregivers in homes for elderly persons in the Netherlands.		Emotion-orientated care training, clinical lessons and supervision meetings-employed interventions that introduced innovations in nursing delivery via changes in work organisation, knowledge and skills training and support and advice from supervisors.	Job satisfaction
Heaney (1995)	US	1375 direct care staff and home managers	To examine if increasing coping resources at work increase social support, improve work team functioning and enhance employee mental health.	Caregiver support program-Ran a training program about mobilizing support from colleagues and about learning participatory problem solving and decision-making skills.	Social support. Organizational climate. Confidence in coping ability.
Delvaux (2004)	Belgium	115 oncology nurses	To assess the impact of psychological training programs on health-care professionals stress, attitudes and communication skills, and on health care professional and patient's satisfaction with health-care professionals	Used psychological training programs with theory, role playing and experiential exchange intended to improve attitudes, communication skills and occupational stress.	Compared to the control group, trained nurses reported positive changes on their stress levels and on their attitudes. Positive training effects were found on communication skills used during the simulated

			communication skills in a randomised study.		interview. Less positive training effects were found regarding interviews with a cancer patient: a significant increase in educated guesses was noticed. No training effect was observed on nurses' satisfaction levels, but a positive training effect was found on patients' satisfaction levels. Although results outline psychological training program efficacy, they indicate the need to design psychological training programs, amplifying the transfer of learned communication skills to clinical practice.
Razavi (1993)	Belgium & France	72 oncology nurses in Belgium and France.	To evaluate the effects of a 24-h psychological training program on attitudes, communication skills and occupational stress amongst a group of oncology nurses.	A 24 hour psychological training program-Used psychological training programs with theory, role playing and experiential exchange intended to improve attitudes, communication skills and occupational stress.	Findings indicate a significant training effect on attitudes and on the level of occupational stress related to inadequate preparation. Trained group members had significantly more in control of the interview than members of the control group.
Carson <i>et al.</i> (1998)	UK	64 MHN's working within Bethlem and Maudsley Hospitals	To evaluate the effects of a social support based intervention with MHN's using a randomized controlled design.	A social support-based programme.	Results showed that a social support-based programme offered no significant advantage over a feedback only programme.
Ewers <i>et al.</i> (2005)	UK	40 FMHN's	To evaluate the effect of	Psychological intervention	Staff in the experimental

		working within a medium secure unit	psychosocial intervention training on the knowledge, attitudes and levels of clinical burnout in a group of FMHN's.	training.	groups showed significant decrease in burnout rates. Staff in control groups showed a small non-significant increase in burnout.
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## **1.6 A problem-solving approach**

A problem-solving approach has been advocated in the literature as an effective organisational stress management intervention (Cox *et al.*, 2007; Rowe, 1999; Golembiewski *et al.*, 1987; Heaney, 1995; Jones *et al.*, 1988). A study conducted in the US involved all members of the organisation in the diagnosis and solution of problems (Golembiewski *et al.*, 1987). Findings indicated a reduction of burnout and group properties and turnover rates following implementation of the problem-solving intervention. A similar intervention involving employee feedback and the subsequent development of action plans to manage stress were found to be effective in the reduction of medical errors in a health care setting (Jones *et al.*, 1988). Murphy & Hurrell (1987) described the development of a worker-management 'stress reduction committee' as stress management intervention. The committee used the results of an employee survey to review and prioritize the identified sources of stress. They planned organisational interventions designed to address identified hazards and presented them to management, recommending an annual audit. Such approaches acknowledge the importance of involvement of employees. The ROSE project website will include a section on participatory problem solving and ways to actively involve employees in problem-solving and in the decision-making process.

## **1.7 Risk management approach**

A risk-management approach, utilising evidence based problem solving, has been identified as a necessary organisational intervention for work-related stress (Cox *et al.*, 2000; Cox *et al.*, 2007), and has been found to inform subsequent risk reduction (Cox *et al.*, 2000). The emphasis of this approach is on primary prevention, and its strength lies in that it adopts a proactive rather than a reactive approach to the management of organisational stress. The approach is largely consistent with issues of work design and management, and their social and organisational contexts (Cox *et al.*, 2000). It is also consistent with occupational health and safety law at EU level and with legislative provisions of EU partner countries in the ROSE project. The work-directed programme will include information for managers on carrying out a risk assessment, providing them with information on why they should carry out a risk assessment (e.g. it is a proactive

approach to the management of work-related stress, consistent with obligations under occupational health and safety law and EU policy regarding work-related stress, promotes a health work environment, positive effects on levels of absenteeism and productivity); a step by step guide on how to conduct a risk assessment including, identification of hazards, proposing solutions to identified problems, developing action plans, monitoring and re-assessing the work environment. The website will also provide managers with information on how to conduct focus groups with employees so that they can adopt a participatory approach to problem-solving and risk reduction.

### **1.8 Training and Support**

The literature suggests that provision of training and support among employees can impact positively on stress levels. Studies which provide training and education often lead to innovations which bring about changes in work organisation (Proctor *et al.*, 1998; Melchior *et al.*, 1996; Schrijnemaekers, 2003). A study conducted to assess the impact of psychological training programmes on health care professionals stress found that trained nurses reported positive changes in their stress levels (Delvaux, 2004). However findings also suggested a need for amplifying the transfer of learned skills to clinical practice. Similar findings were reported by Ewers and colleagues (2005) who found that a group of forensic mental health nurses experienced a significant decrease in burnout rates following the provision of psychosocial intervention training. A study conducted in the Netherlands among 300 professional care givers in homes for elderly persons found that emotion-orientated care training, clinical lessons and supervision meeting resulted in job satisfaction among participants (Schrijnemaekers, 2003).

However, the evidence supporting the effectiveness of social support interventions over other programmes is weak. For example, a study conducted in the UK among mental health nurses which evaluated a social support based intervention found that the programme offered no significant advantage over a feedback programme (Carson *et al.*, 1998). The ROSE project website will provide information for the manager on the provision of a supportive working environment. Information will be provided on teamwork and the provision of feedback from managers.

## **1.9 Control**

Murphy (1988) conducted a review of several interventions which addressed the nature and design of the work environment (Jackson, 1983; Wall & Clegg, 1981; Pierce & Newstrom, 1983). The issue of control emerged as a dominant theme throughout the literature included in the review. For instance, a study conducted by Wall & Clegg (1981) manipulated worker control over significant aspects of the work process. Manipulation of the work environment in a study carried out by Jackson (1983) produced modest increases in worker control. Pierce & Newstrom (1983) introduced flexi-time systems into their workplace which increased worker control over some aspects of their work. All 3 studies demonstrated how manipulation of the work environment to increase worker control led to a reduction in the experience of stress amongst employees.

Jackson (1983) carried out a study amongst staff working in 25 outpatient clinics in hospital across the UK to test the hypotheses that, 'increased participation in decision-making would decrease the experience of role problems'. Clinical supervisors were given appropriate training on participation and the number of staff meeting held in the clinic were increased. Findings included significant reductions in role ambiguity and role conflict in the intervention clinics after 6 months follow up.

Control emerged from the literature as a significant factor in the reduction of stress and is a feature of many effective work-directed stress management interventions. The ROSE project website will provide information on how the manager can manipulate the work environment to increase control amongst employees. Information will be provided on role ambiguity so that the managers can ensure that roles within their organisation are clearly defined. Other methods of increasing control through work redesign will be proposed, for instance, the introduction of flexi-time systems, etc. Information regarding the introduction of 'change' to areas of the work environment will be provided and guidelines on how to manage change within the workplace. Models and tools for managing change will be provided to inform the manager.

### **1.10 Environmental assessment tools**

The Work Environment Scales (Moos, 1981) was identified as a potential instrument for use in the ROSE project. It measures work site features and consists of 60 items including 10 dimensions. Dimensions include involvement, peer cohesion, supervisor support, autonomy, task orientation, clarity, control, innovation and physical comfort. . The Occupational Stress Indicator (Cooper, Sloan & Williams, 1988) was also reviewed as a potential measure for use in the ROSE project. However it required 35 minutes for completion. It was deemed too time consuming for use on the website. The Work Organisation Assessment (EEF/I-WHO) was reviewed and was deemed suitable for use on the work-directed programme. Permission to use the tool was sought from the copyright holders. However, permission could not be granted to access the tool, as EEF are a membership organisation.

### **1.11 Supports for implementation of stress management interventions**

Current research evaluating stress management interventions has identified key variables related to support for the implementation of interventions. Variables include the nature of managerial control for those interventions, and those affected by them, employees' readiness for and acceptance for the need for change, their motivation and their willingness and ability to participate, their role in the decision-making process, the resources available to support change, and the quality of social relations and trust within the organisation (Cox *et al.*, 2007; Nielsen *et al.*, 2007; Nytro *et al.*, 1998; Nytro *et al.*, 2000; Taris *et al.*, 2003). These variables reflect the management of the implementation of the intervention process, and the organisational context for that intervention in term of the organisational and social processes in which it is embedded (Cox *et al.*, 2007).

There is a large body of evidence to suggest that the management of the implementation of any intervention is key its success (Cox *et al.*, 2007; Kompier *et al.*, 2000; Mikkelsen *et al.*, 2000; Nytro *et al.*, 2000; Parker & Wall, 1998; Randell *et al.*, 2007; Saksvik *et al.*, 2007). Karsh and colleagues (2001) have argued that “the study of the implementation process is crucial both for our understanding of future research results and for understanding the variance in outcomes” (p. 89). It has also been suggested that

variability in macro processes in the wider organizational, social and socio-economic, and political contexts may explain why some interventions are successful and others are not (Goldenhar & Schulte, 1994).

### **1.12 Conclusion**

A review of existing literature indicates that organisational interventions or interventions that target the organisation as well as the individual, are most effective in stress reduction. However, this review indicates that most interventions target the individual and not the organisation, and few evaluation studies have been conducted to test the effectiveness of such interventions. The limited literature that is available suggests that organisational interventions that aim to reduce or control the hazards within the workplace are most effective, and indicates that an approach that combines interventions that target the organisation as well as the individual represent the best way forward.

The ROSE project will develop a work-directed stress management programme for staff working in vocational training centres. The interventions which will form the programme content will be based upon the 6 areas of work design which emerged from the literature and from the focus groups as commonly contributing to stress (i.e. demands, control, support, relationships, role, change). The content of the programme has therefore been developed based on this literature review to identify the most effective techniques and from the baseline data gathered from the focus groups conducted in 5 EU partner countries. However, the ROSE project has the added benefit as it will combine both person and work-directed stress management techniques, which is advocated in the literature as the most effective approach in stress reduction.

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## **Appendix 1: Search strategy for identification of studies**

The main literature sources consulted for use in the review were empirical studies on occupational stress, burnout, and stress management interventions; grey literature (e.g. European Commission reports, websites, government reports) on occupational stress; review papers with a focus on work-directed stress management interventions.

### **Electronic databases**

The electronic databases consulted ranged across medical, nursing and social sciences. The primary ones utilised were PubMed, the Cochrane Library, Cumulative Index on Nursing and Allied Health Literature (CINAHL), the Web of Science and Blackwell Synergy. Search terms ‘and’ and ‘or’ were used to refine searches in relation to the use of key words. The key words regularly employed singly or in combination were ‘occupational stress, ‘burnout’, ‘stress management interventions’ or ‘mental health rehabilitation’.

### **Synthesis Process**

To further refine the search in terms of relevance to the study abstracts were read if available. To sharpen the focus of the literature search only studies on workers/employees were included in the review and only English language data with a occupational stress or burnout focus were included. Literature consulted included mostly publications within the last five years, however there were some exceptions where older literature with particular significance was used. All articles included in the review were systematically screened for information relevant to the research question and to establish if the focus of the study was on work-directed stress management interventions. Gaps in the literature were noted throughout the literature search.

### **Following up cited sources**

Published articles consulted were then searched for further key references. Key references were identified by the number of times then were cited in the article.

## **Appendix 2: Criteria for considering studies for this review**

### **Types of participants**

Studies which were conducted amongst health care professionals were included in this review, with specific reference to studies which were carried out amongst mental health professionals.

### **Types of interventions**

Studies which included any kind of work-directed interventions aimed at preventing or reducing stress arising from work. These included interventions which focused on changing the work environment or job redesign.

### **Types of outcome measures**

As primary outcomes all validated self-assessment tools to measure stress and burnout were included. These included Maslach Burnout Inventory (Maslach & Jackson, 1986), Occupational Stress Indicator (Cooper *et al.*, 1998), Rosenberg Self-Esteem Scale (Rosenberg, 1965), Minnesota Job Satisfaction Scale (Weiss *et al.*, 1967), General Health Questionnaire (Goldberg & Williams, 1998), and a number of self-designed questionnaires. Other outcomes that did not measure stress or its effects on individuals were deemed beyond the scope of this review and were thus excluded from analysis.

