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Work-related stress in nursing:
Controlling the risk to health

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International Labour Office   Geneva

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Preface

Occupational stress can no longer be considered an occasional, personal problem to be remedied with palliatives. It is becoming an increasingly global phenomenon, affecting all categories of workers, all workplaces and all countries. This trend — coupled with its rising cost to the individual, to industry and to society as a whole — has greatly heightened awareness of the need for effective and innovative ways of tackling stress.

Stress prevention at the workplace has proved particularly effective in combating stress, by attacking its roots and causes, rather than merely treating its effects. In line with such an approach, this series of working papers is aimed at providing concrete advice on how to prevent stress in specific occupations particularly exposed to stress. For each occupation considered, the paper indicates a number of preventive measures targeted to the elimination of the causes of stress, rather than the treatment of its effects, and how these measures can become an integral part of the necessary organizational development of a sound enterprise and eventually pay for themselves.

The series includes the following working papers:

—   Dr. V.J. Sutherland and Professor C.L. Cooper,
        University of Manchester, United Kingdom
        Stress prevention in the offshore oil and gas exploration and production industry;

—   Professor G. Costa, University of Verona, Italy
        Occupational stress and stress prevention in air traffic control

—   Professor T. Cox and Dr. A. Griffiths, Nottingham University, United Kingdom
        Professor S. Cox, Loughborough University of Technology, United Kingdom
        Work-related stress in nursing: Controlling the risk to health

—   Professor M.A.J. Kompier, University of Nijmegen, Netherlands
        Occupational stress and stress prevention for bus drivers

—   Dr. S. Kvanström, Asea Brown Boveri, Sweden
        Stress prevention for blue-collar workers in assembly-line production

As the series is intended to stimulate action at enterprise level, its primary audience will consist of managers, supervisors, workers, workers' representatives and engineers who have a concrete interest in introducing anti-stress programmes within their enterprise and an open approach to improvements and change. The series is also directed at policy-makers, as well as government officials and workers' and employers' organizations with a direct interest in this area.

Introduction

There is a growing need for reasonable and practicable guidance in relation to the management of work-related stress and health. To be effective, such guidance must both reflect a scientifically valid approach to stress and stress management, and be tailored to the specific needs and context implied in dealing with particular work organizations and groups. This paper focuses on the management of work-related stress in hospital-based nursing. It is written as an aid to both education and practical action.

It is a requirement of most European health and safety legislation that those employed in any form of work are made aware of its hazards and how exposure to those hazards might be best managed. Part 1 of this paper provides an educational introduction to the hazards of nursing, work-related stress and the notion of the control cycle as an approach to stress management.

It is also a requirement of most European health and safety legislation that appropriate and satisfactory risk assessments are carried within organizations, health-care organizations included, and acted on as necessary. Part 2 of this paper provides the framework for such assessments and subsequent action in relation to work-related stress and nursing. Here it has been written as much as a development aid as a prescription for action. It is suggested that each hospital wishing to use the approach described here first establishes a "risk assessment /risk management" team that studies and discusses the approach in some detail. It should then attempt a pilot assessment/management project and reflect not only on its results but also on the processes involved in their implementation. The risk assessment/risk management team may then wish to modify those processes before using them again. They may wish to treat the whole initiative as a development cycle crafting, tailoring and fine-tuning the processes involved to best fit and serve their local context.

Different groups will be involved in different stages in the overall process. All those involved with nursing activities should be educated in relation to the hazards of the work, and risk assessment/risk management. Nurse supervisors and nurse representatives and hospital management, both general and functional, also need to be involved in risk assessment and risk management, but in different ways at different times. This differential involvement is made clear in the paper.

Finally, the paper is focused on hospital-based nurses, but does not further distinguish between different types of hospital-based nurse. The evidence is that this is not necessary, particularly given the degree of flexibility written into the paper in relation to tailoring and fine-tuning the processes to best fit the local context.

The ideas and experience distilled in this paper come from three sources — all of which are gratefully acknowledged: the research conducted by Tom Cox and Amanda Griffiths through the Centre for Organizational Health and Development, Department of Psychology, University of Nottingham; the research and training conducted by Sue Cox through the Centre for Hazard and Risk Management at Loughborough University of Technology; and the consultancy carried out by all three through Maxwell & Cox Associates (Nottingham and Sutton Coldfield). The authors wish to thank their colleagues for their help and support.

Part 1. Stress in nursing

1.1. Background

Over the past two decades, there has been a growing belief that the experience of stress at work has undesirable effects, both on the health and safety of workers and on the health and effectiveness of their organizations. This belief has been reflected not only in public and media interest, but also in increasing concern voiced by the trades unions and by scientific and professional organizations, including the International Labour Office.[1] Particular concern has been expressed for the effects of stress on health-care professionals and, in particular, on nurses.

In 1987, in the first number of the international quarterly *Work and Stress*, Dewe,[2] referring to Moreton-Cooper,[3] wrote that:

"If you wanted to create the optimum environment for the manufacture of stress, many of the factors you would include would be clearly recognized by nursing staff as events which they encounter in their daily routine. These include an enclosed atmosphere, time pressures, excessive noise or undue quiet, sudden swings from intense to mundane tasks, no second chance, unpleasant sights and sounds, and standing for long hours".

He concluded that nursing is, by its very nature, a "stressful" profession. In a similar vein, Hingley[4] observed that:

"Everyday the nurse confronts stark suffering, grief and death as few other people do. Many nursing tasks are mundane and unrewarding. Many are, by normal standards, distasteful and disgusting. Others are often degrading; some are simply frightening".

It is hardly surprising that nurses, confronted by such events and tasks, have been reported to experience high levels of stress, and their difficulties appear to be further exacerbated by a range of organizational issues increasingly recognized as being instrumental in the stress process.

The responsibility of hospital management for the health of their nursing staff is set within a framework of national and international law, which is itself largely based on the concept of the

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[1] ILO: *Psychosocial factors at work: Recognition and control*, Occupational Safety and Health Series No. 56 (Geneva, 1986).

[2] P. Dewe: "New Zealand ministers of religion: Sources of stress at work", in *Work and Stress*, No. l, 1987, pp. 351-363.

[3] A. Moreton-Cooper: "The end of the rope", in *Nursing Mirror*, No. 159, 1984, pp. 16-19.

[4] P. Hingley: "The humane face of nursing", in *Nursing Mirror*, No. 159, 1984, pp. 19-22.

control cycle[5] and the process of risk management.[6] Such a framework has been made explicit in the European Union's Framework Directive 89/391/EEC.[7] Although much of this framework focuses on the direct effects of the more tangible hazards of work, it has been strongly argued that it can be extended to encompass psycho-social and organizational hazards, stress and stress management.[8]

1.2.   Stress

The experience of stress represents a psychological state. It can result from exposure, or threat of exposure, both to the more tangible workplace hazards and to the psycho-social hazards of work. The experience of stress is one important outcome of exposure to the hazards of work and to hazardous situations. Those hazards of work which are associated with the experience of stress are often termed stressors.

Applied directly to nursing, contemporary theories of stress suggest that a situation which is typically experienced as stressful is perceived to involve (1) work demands which are threatening or which are not well matched to the knowledge, skills and ability to cope of the nurses involved, or (2) work which does not fulfil their needs, especially where those nurses (3) have little control over work and (4) receive little support at work or outside of work (see Box 1).[9]

Box 1. Work situations typically experienced by nurses as stressful

1.   Work in which the demands imposed are threatening and not well-matched to the knowledge, skills and ability to cope of the nurses involved.

2.   Work which does not meet the needs of the nurses involved.

3.   Situations in which nurses have little control over work.

4.   Situations in which nurses receive little support at or outside or work.

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[5] S. Cox and T. Cox: *Psychosocial and organizational hazards: Monitoring and control*, European Series in Occupational Health No. 5 (Copenhagen, World Health Organization, 1993).

[6] S. Cox and R. Tait: *Safety, reliability and risk management* (London, Butterworth Heinemann, 1991).

[7] Commission of the European Community: *Framework Directive on the workplace*, No. 89/391/EEC (Brussels, 1989).

[8] T. Cox: *Stress research and stress management: Putting theory to work* (Sudbury, HSE Books, 1993); Cox and Cox, op. cit.

[9] T. Cox: *Stress* (London, Macmillan, 1978); T. Cox and A. Griffiths: "The nature and measurement of work stress: Theory and practice", in N. Corlett and J. Wilson (eds.): *Evaluation of human work: A practical ergonomics methodology* (London, Taylor and Francis, 1994).

1.3.   Work hazards, stress and health

A work hazard is an aspect of the work situation, or an event, which carries the potential for harm. Work hazards can be broadly divided into (1) the physical, which include the bio-mechanical, chemical, microbiological and radiological, and (2) the psycho-social. Psycho-social hazards are those which relate to the interactions among job content, work organization, management systems, environmental and organizational conditions, on the one hand, and workers' competencies and needs, on the other. Those interactions which prove hazardous influence workers' health through their perceptions and experience.[10] Exposure to both types of hazard may threaten psychological and physical health. The evidence suggests that their effects may be mediated by at least two pathways (see Figure 1): first, a direct physico-chemical mechanism, for example, as in the effects of infection with the human immuno-deficiency virus (HIV) as a contributory factor in AIDS; and second, a psycho-physiological stress-mediated mechanism, for example, as in the effects of perceived loss of control as a possible contributory factor in coronary heart disease. These two mechanisms do not offer alternative explanations of the hazard-health relationship; in most hazardous situations, both operate and interact to varying extents and in various ways. Examples of such interactions may exist in relation to work-related upper limb and back disorders in nurses, where a combination of physical load, stress and muscle tension may contribute to the onset of those problems, or in relation to exposure to organic solvents, which may have a psychological effect on the nurse through their direct effects on the brain, through the unpleasantness of their smell and through fear that such exposure might be harmful.[11] The latter can give rise to the experience of stress.

Acceptance of the basic principle underpinning this argument takes us beyond "equivalence reasoning"; that is, only expressing concern, for the direct physico-chemical actions of the more tangible physical hazards or for the psycho-physiological (stress) actions of psycho-social hazards. It makes the point that stress is an occupational health issue in the broadest sense and not simply a mental health problem. This is an important point.

In addition to anxiety over exposure to the more tangible hazards of work, the evidence suggests that certain psycho-social characteristics of work are associated with the experience of stress and, in turn, job dissatisfaction and ill-health.

[10] ILO, *Psychosocial factors at work*, op. cit.

[11] L. Levi: *Preventing work stress* (Reading, Mass., Addison-Wesley, 1981).

Figure 1. Pathways from hazard to harm
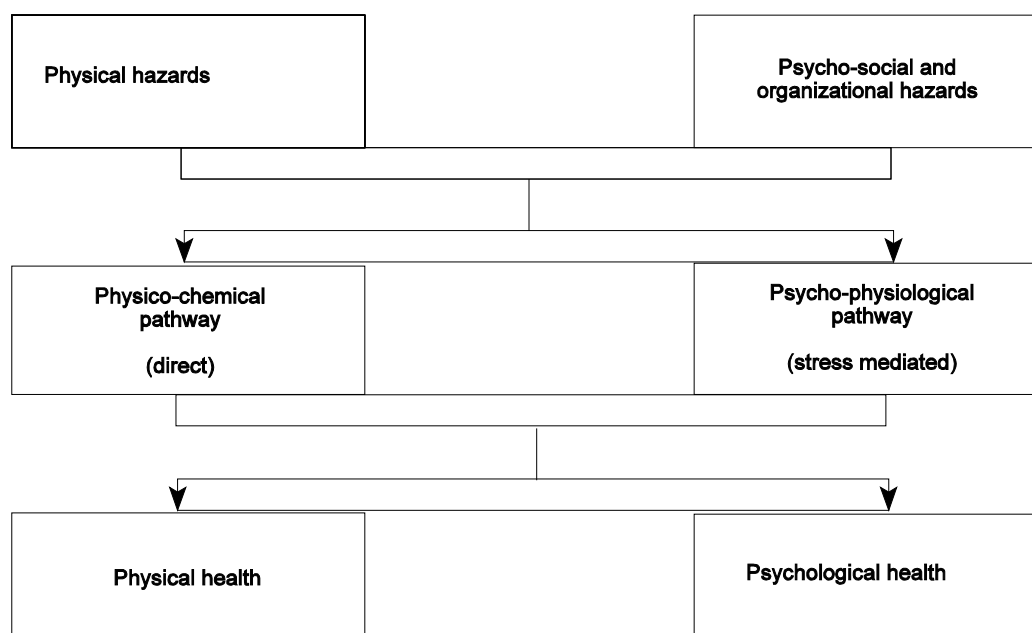
1.4. Psycho-social hazards and stress in nursing

There appear to be nine different psycho-social characteristics of jobs, work environments and organizations which are hazardous for most work groups. They relate to aspects of organizational function and culture, participation/decision latitude, career development, role in organization, job content, workload/workpace, work schedule, interpersonal relationships at work and work-home interface. Under certain conditions, each of these nine characteristics of work has proved stressful and/or harmful to health. For example, the conditions which define the hazardous nature of workload/workpace include quantitative work overload or underload, qualitative work overload or underload, lack of control over workload, high levels of pacing, lack of control over pacing, time pressures, deadlines and sustained urgency in work.

Karasek[12] has drawn attention to the possibility that work characteristics may not be simply additive in their effects on health, but that they might combine interactively in relation to such effects. For example, analysing data from Sweden and the United States, he found that workers in jobs perceived to have both low decision latitude and high job demands were particularly likely to report poor health and low satisfaction. Later studies appeared to confirm his theory, although recently questions have been asked about its validity.

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[12] R.A. Karasek: "Job demands, job decision latitude and mental strain: Implications for job redesign", in *Administrative Science Quarterly*, Vol. 24, 1979, pp. 285-308.

Most studies on nurses have focused on those employed in hospitals or closely-related health-care organizations. Of the earlier studies, it is those of Gray-Toft and Anderson which have repeatedly attracted attention.[13] These authors identified seven major sources of stress:[14]

1. Dealing with death and dying.
2. Conflict with physicians.
3. Inadequate preparation to deal with the emotional needs of patients and their families.
4. Lack of staff support.
5. Conflict with other nurses and supervisors.
6. Workload.
7. Uncertainty concerning treatment.

A somewhat similar list was compiled, about the same time, by Bailey and his colleagues,[15] which included management difficulties, interpersonal relationships with other nurses and medical staff, issues involving patient care, concerns about technical knowledge and skills, workload and career issues. This profile of problems was also reflected in the work of Leatt and Schneck, which concerned "head nurses".[16] Ivancevich and Smith summarized those aspects of nursing which required significant physical and/or mental effort to complete.[17] They identified three principal sources of such difficulty: work overload, conflict and the working habits of head nurses or supervisors. Dewe reported a study of about 1,800 nurses in 29 hospitals in New Zealand.[18] He reports identifying five "stressor" factors in these data: work overload, difficulties relating to other staff, difficulties involved in nursing the critically ill, concerns over the treatment of patients, and dealing with difficult or hopelessly ill patients. His results were completely consistent with the earlier research. These studies — and others — are summarized in Table 1. The information presented in Table 1 might be used to provide a framework for the identification of sources of stress in groups of nurses. Together, they summarize potential sources of stress in hospital-based nursing.

[13] P. Gray-Toft and T.G. Anderson [1981a]: "The nursing stress scale: Development of an instrument", in *Journal of Behavioural Assessment*, Vol. 3. 1981, pp. 11-23; P. Gray-Toft and T.G. Anderson [1981b]: "Stress among hospital nursing staff: Its causes and effects", in *Social Science and Medicine*, Vol. 15A, 1981, pp. 539-647.

[14] Gray-Toft and Anderson, "The nursing stress scale", op. cit.

[15] J.T. Bailey, S.M. Steffen and J.W. Grout: The stress audit: Identifying the stressors of ICU nursing", in *Journal of Nursing Education*, Vol. 19, 1980, pp. 15-25.

[16] P. Leatt and R. Schneck: "Differences in stress perceived by head nurses across nursing specialities in hospitals", in *Journal of Advanced Nursing*, Vol. 5, 1980, pp. 31-46.

[17] J.M. Ivancevich and S.V. Smith: "Identification and analysis of job difficulty dimensions: An empirical study", in *Ergonomics*, Vol. 24, 1981, pp. 351-364.

[18] Dewe, op. cit.

Dewe makes two important points about findings such as these.[19] First, as Gray-Toft and Anderson observed,[20] the nursing role is associated with multiple and conflicting demands imposed by nurse supervisors and managers, and by medical and administrative staff. Such a situation appears to lead to work overload and possibly to role conflict. One form of such conflict often mentioned in nursing surveys relates to the conflict inherent in the instrumental and goal-oriented demands of "getting the patient better" and those related to providing emotional support and relieving patient stress. Role conflict of this kind may be most obvious when dealing with patients who are critically ill and dying, although perhaps less so when dealing with their families. Second, each of the sources of stress, summarized in Table 1, is itself a complex amalgam of events and situations and treating them — naively — as uni-dimensional obscures both the real nature of the problem and the pattern of events.

For example, dealing with a dying patient is a major concern to nurses, in general, and to critical or intensive care nurses, in particular.[21] However, the death of a patient is just one aspect of a more complex situation, and is almost always surrounded by other issues of patient care.[22] The financial constraints imposed on health-care systems over the last decade or so in most countries have tended to exaggerate the problems faced by nursing staff.[23] This point underlines the need for an in-depth analysis of stressful situations and the interaction between stressors.

[19] ibid.

[20] Gray-Toft and Anderson, "The nursing stress scale", op. cit.

[21] Dewe, op. cit.; D.A. Chiriboga, G. Jenkins and J. Bailey: "Stress and coping among hospice nurses: Test of an analytic model", in *Nursing Research*, Vol. 32, 1983, pp. 294-299; W.D. Gentry and K.R. Parkes: "Psychological stress in an intensive care unit and non-intensive care unit nursing: A review of the last decade", in *Heart and Lung*, Vol. 11, 1982, pp. 43-47.

[22] Bailey et al., op. cit.; Gray-Toft and Anderson, "The nursing stress scale", op. cit.; Gentry and Parkes, op. cit.

[23] Dewe, op. cit.

Table 1. Stressors of nursing: Psycho-social and organizational hazards

Source of stress	Psycho-social or organizational hazard	Reference
1. Job design and workload	Ambiguity	Leatt & Schneck (1980)
	Work overload	Bailey et al. (1980) Leatt & Schneck (1980) Gray-Toft & Anderson (1981a) Ivancevich & Smith (1981) Dewe (1987) Hipwell et al. (1989)
	Lack of control	Mclaney & Hurrell (1988)
	Dealing with death and dying	Gray-Toft & Anderson (1981a) Gentry and Parkes (1982) Chiriboga et al. (1983) Hingley & Harris (1986) Adey (1987) Dewe (1987) Guppy & Gutteridge (1991)
2. Interpersonal relationships at work	Conflict with other staff	Leatt & Schneck (1980) Dewe (187)
	Conflict with medical staff: Doctors' behaviour	Gray-Toft & Anderson (1981a) Bailey et al. (1980) Leatt & Schneck (1980) Ivancevich & Smith (1981)
	Conflict with other nurses	Gray-Toft & Anderson (1981a) Bailey et al. (1980) Guppy & Gutteridge (1991)
3. Relationships with patients and their families	Inadequate preparation for dealing with emotional needs of patients and their families	Gray-Toft & Anderson (1981a)
4. Work organization and management of work	Lack of staff support	Gray-Toft & Anderson (1981a) Hingley & Harris (1986)
	Staff movement	Leatt & Schneck (1980)
	Difficulties with management and supervisors	Bailey et al. (1980) Gray-Toft & Anderson (1981a) Ivancevich & Smith (1981)
	Lack of resources and staff shortages	Adey (1987) Guppy & Gutteridge (1991)
5. Technical aspects of nursing	Concern about treatment and patient care	Bailey et al. (1980) Leatt & Schneck (1980) Gray-Toft & Anderson (1981a) Dewe (1987)
6. Personal	Concern about technical knowledge and skills	Bailey et al. (1980)

1.5.   Generality of findings

Some researchers[24] have asked whether those sources of stress commonly cited in the scientific literature (see Table 1) are similar for all nurses employed in hospitals irrespective of type of ward or nursing speciality. The evidence[25] appears to support the view that, together, factors inherent in the nursing role and in the organizational culture within which the nurse works[26] are as important a determinant of the experience of stress by nurses as the type of nursing pursued. Yu et al.[27] have concluded that stress in nursing reflects the overall complexity of the nurses' role, rather than any particular aspects of their individual tasks. One of the areas of nursing that has attracted particular attention has been critical or intensive care nursing. Reviews of the literature on stress in such nursing tend to support the above conclusions.[28] Stehle concluded that there is no evidence that critical or intensive care nursing is more or less stressful than any other type of nursing.[29] Irrespective of the specialized nursing involved, critical or intensive care nurses appear to be as vulnerable to workload issues, patient conflicts and the difficulties imposed by adequate resources as nurses in other areas.[30]

Not all the available studies support this general conclusion. Relatively recent studies[31] conclude that, while different nursing groups report similar levels of stress, the profile of stressors associated with those similar levels differed somewhat between groups. However, the inter-group differences reported in those studies and others are not sufficient to argue for the separate treatment of the various nurse groups which exist in hospitals. Therefore, while strategies for stress management need to be tailored to the generic group, hospital-based nurses, they do not need to be further tailored to distinguish between different types of hospital-based nurse.

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[24] Gray-Toft and Anderson, "Stress among hospital nursing staff", op. cit.; K.A. Nichols, V. Springford and J. Searle: "An investigation of distress and discontent in various types of nursing", in *Journal of Advanced Nursing*, Vol. 6, 1981, pp. 311-318; D.G. Cross and A. Fallon: "A stressor comparison of four speciality areas", in *Australian Journal of Advanced Nursing*, Vol. 2, 1989, pp. 24-36.

[25] Dewe, op. cit.; L.C. Yu, P.K. Mansfield, J.S. Packard, J. Vicary and W. McCool: "Occupational stress among nurses in hospital setting", in *AAOHN Journal*, Vol. 37, 1989, pp. 121-129.

[26] Nichols et al., op. cit.

[27] Yu et al., op. cit.

[28] J.L. Stehle: "Critical care nursing stress: The findings revisited", in *Nursing Research*, Vol. 30, 1981, pp. 182-187; Gentry and Parkes, op. cit.

[29] Stehle, op. cit.

[30] D.G. Cross and A. Fallon: "A stressor comparison of four speciality areas", in *Australian Journal of Advanced Nursing*, Vol. 2, 1985, pp. 24-36.

[31] P. Herschbach: "Work related stress specific to physicians and nurses working with cancer patients", in *Journal of Psychosocial Oncology*, Vol. 10, No. 2. 1992, pp. 79-99; P.A. Tyler and R.N. Ellison: "Sources of stress and psychological well-being in high dependency nursing", in *Journal of Advanced Nursing*, Vol. 19, 1994, pp. 469-476.

1.6.   Health effects of stress in nursing

Many studies on stress in nursing have attempted to measure, or have speculated on, the effects of such stress on nurses' health and well-being.[32] There appears to be general agreement that the experience of work-related stress generally detracts from the quality of nurses' working lives, increases minor psychiatric morbidity, and may contribute to some forms of physical illness. Such conclusions receive support from available governmental statistics in many countries. For example, in 1993, the United Kingdom Health and Safety Executive published a document entitled *Self-reported work-related illness*. This provided an interesting addendum to the national statistics: a representative national sample of 75,000 adults were asked about the nature of their illnesses and their views on what caused them. Since the survey did not include workers in communal establishments, the extent of such problems experienced by nurses was thought to be under-estimated by up to 7 per cent. Musculo-skeletal disorders were the most common cause of ill-health among all respondents (42 per cent of cases), followed by stress and depression (8.1 per cent). Nurses were among those groups who reported significantly raised rates of stress and depression.

1.7.   Stress management

European legislation and related guidance on health and safety offers a practical framework for managing the relationship between the hazards of work and the harm that they might cause. The legislation outlines a strategy for risk assessment and risk management and the control of hazards, based on the concept of the control cycle.[33] It also provides guidelines for the monitoring and evaluation of such control. This framework provides a good basis for developing strategies for the management of stress in nursing. The continuing theme throughout is the need to adopt a systematic approach. This approach is described in Box 2.

Box 2. The control cycle: Risk assessment and risk management in the workplace

1.   Identification of hazards.
2.   Assessment of associated risk.
3.   Implementation of appropriate control strategies.
4.   Monitoring of effectiveness of control strategies.
5.   Reassessment of risk.
6.   Review of information needs and training needs of workers exposed to hazards.

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[32] P. Hingley and C.L. Cooper: *Stress and the nurse manager* (Chichester, John Wiley, 1986).

[33] Directive 86/391/EEC, op. cit.

Steps 1 through 5 describe a cycle of activities which have been designed to ensure the continuous improvement of occupational health and safety at work. This cycle has been termed "the control cycle"[34] and is the "engine" which drives the "risk assessment/risk management" paradigm.[35] It has been argued that, not only is the control cycle approach an effective way of dealing with the more tangible and physical hazards of work, but that it should be extended to cover psycho-social hazards and the experience of stress.[36] A particular account of the control cycle is elaborated in Part 2 in relation to the experience of stress at work by nurses.

The control cycle begins with hazard identification. This must be based on a thorough analysis of the work situation, and include consideration of the tasks and people involved, of procedures and work organization, and of the work environment and culture and relevant technology. Research into the nature and effects of a hazard is not the same as assessment of the associated risk, although the two are related. Research studies, for example, which explore psycho-social hazards and the effects of stress in nursing do not usually provide the necessary risk data for use in the control cycle. What is needed is dedicated risk assessment. Risk assessment should both offer an explanation of and quantify the hazard-harm relationship, and these should provide a basis for the logical design of control strategies. Risk assessment leads into risk management and reasonable and practicable steps to reduce risks and protect workers.

1.8. Conclusions

Nursing is acknowledged to be stressful work, and there is a need to understand the nature of that problem and to better manage it. Both anxiety about the more tangible hazards of nursing, and exposure to the psycho-social hazards associated with that work can give rise to the experience of stress. In turn, that experience can detrimentally influence job satisfaction, psychological well-being and physical health. Stress in nursing can be best reduced through the application of the control cycle approach and risk assessment/risk management techniques. These are the subject of Part 2 .

[34] Cox and Cox, op. cit.

[35] Cox and Tait, op. cit.; D.G. Barnes: "Times are tough ─ Brother can you paradigm", in *Risk Analysis*, Vol. 14, 1994, pp. 219-223.

[36] Cox and Cox, op. cit.

Part 2. How to tackle stress

2.1.   The control cycle: A practical approach

Background

The hazards of nursing are those aspects of nurses' work, work environment and organization, or those work-related events which carry the potential for causing harm. Nurses may experience stress in relation to exposure to the psycho-social and organizational hazards of work as well as the more tangible and physical workplace hazards.[37]

The notion of risk provides both a link between the concepts of hazard and harm, and also a measure of the likelihood of harm occurring which takes into account the severity of that harm. The control cycle is the systematic process by which hazards are identified, risks analysed and managed, and workers protected.[38] It offers a practical approach to protecting nurses from the experience of work-related stress. This paper discusses the various steps required by the control cycle approach to stress management. This approach is outlined in Box 3. The early steps in this process (1 through 3) represent "risk assessment", while the next three steps (4 through 6) represent "risk management". Together, risk assessment and risk management form two of the critical and inseparable activities in the control cycle process.[39]

The processes of risk assessment and risk management are somewhat different in nature. The activities which make up risk assessment and their sequence are the easier to describe in detail and follow a more predictable course in their implementation. Risk management, by contrast, is more difficult to prescribe as a sequence of activities and relies, by its very nature, on the success of supporting negotiation and education within the organization. Therefore this paper can offer more prescriptive and detailed advice in relation to steps 1 to 3 (risk assessment) than it can in relation to steps 4 to 6 (risk management).

Case study

A case study has been developed to illustrate the risk assessment/risk management exercise. This is presented in a series of boxes at the end of each section. The case material is put together from the work of the three organizations involved in the production of this paper.

While there are several accounts in the scientific literature of specific ergonomic and training interventions targeted on nurses, there is no definitive account to date of the application of a

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[37] B. Rogers and P. Travers: "Overview of work related hazards in nursing: Health and safety issues", in *Heart and Lung*, Vol. 20, 1991, pp. 486-495; Cox, *Stress research and stress management*, op. cit.

[38] Cox and Cox, op. cit.

[39] Barnes, op. cit

complete risk assessment/risk management approach to the control of work-related stress. However, there are some interventions which provide useful and practical insights to elements of the overall process. Reference could be made, for example, to an evaluation study by Jackson.[40] This study is briefly described below.

Jackson has reported an organizational intervention for nursing staff in an out-patient facility associated with a university hospital in the United Kingdom. Nurses were randomly assigned to a control or intervention group, where the intervention consisted of the introduction of regular and frequently held staff meetings supported by training for unit supervisors. The purpose of such meetings was to increase participation in decision-making — the lack of which was a primary cause of role conflict and role ambiguity. Results indicated that, after six months (but not before), nurses working in units that held frequent staff meetings reported significant decreases in role conflict and role ambiguity, which, in turn, were associated with a reduction in self-reported emotional strain and an increase in job satisfaction. The intervention also had other positive effects, including an increase in nurses' perceptions of their ability to have influence over their work.

This study began with an analysis of the nurses' situation, followed by the design and implementation of an intervention and, finally, the evaluation of that intervention. It is the nearest example of the application of the control cycle approach — risk assessment followed by risk management.

Box 3. The control cycle approach to stress management for nursing

Risk assessment

1. **Recognition** that nurses are experiencing stress through work.

2. **Analysis** of potentially stressful situations confronting nurses, with the identification of the psycho-social and other hazards involved, the nature of the harm that they might cause, and the possible mechanisms by which the hazards, the experience of stress and the harm are related.

3. **Estimation and evaluation** of the risk to nurses' health associated with exposure to those hazards through the experience of stress, and the justification of intervening to reduce stress and its effects.

Risk management

4. **Design** of reasonable and practicable stress management (control) strategies.

5. **Implementation** of those strategies.

6. **Monitoring and evaluation** of the effects of those strategies feeding back into a reassessment of the whole process from steps 1 and 2 forwards.

[40] S.E. Jackson: "Participation in decision-making as a strategy for reducing job-related strain", in *Journal of Applied Psychology*, Vol. 68, 1983, pp. 3-19.

2.2.   Risk assessment

Step 1. Problem recognition

The application of the control cycle approach to stress management for nursing can only begin once a potential problem has been recognized by the nursing group and/or the hospital. The necessary risk assessment cannot begin until there is acceptance that nurses may be experiencing stress through work and that a threat to their health may exist.

There are several sources of data which might alert nursing staff and hospital management to potential stress problems: these can be either formal or informal. They are listed in Box 4.

Box 4. Sources of information on stress in nursing

Formal records, including:

— Personnel data on nurses' availability for work and, particularly, that relating to sickness absence, internal transfers and staff turnover.

— Survey information on nurses' attitudes and reactions to work.

— Safety information on accidents and incidents: both formal records and content of investigatory, debriefing and follow-up interviews.

— Occupational health data from routine health surveillance or case records.

— Personnel information on complaints against nursing staff and disciplinary actions.

— Welfare or occupational health data on nurses seeking counselling or support from employee assistance programmes (EAPs).

— Employee relations data relevant to industrial relations, including number of strikes, other stoppages and incidents of non-cooperation.

Less-formal information, including:

— Nature of local work climate.

— Number and types of complaint made by nursing staff.

— Discussions of the effects of work on health following a dramatic event or incident; for example, the unexpected death or serious illness of a nursing colleague, their unexpected resignation or a violent public argument.

Often, awareness of stress at work is first raised by an extraordinary event, such as an unexpected resignation or death or particularly bad annual absenteeism figures. This, in turn, prompts preliminary discussions and a review of other sources of information with the gradual recognition and acceptance that a problem may exist. In reviewing such information, it is useful to make, at least, two sets of comparisons: first, comparison between different groups or areas within the hospital; and, second, between those groups in the hospital and other similar groups elsewhere. Such comparisons, if sensibly made, should help identify possible problem groups or areas.

Problem recognition and acceptance are not necessarily logical processes simply based on weighing the available evidence. They are often political in nature and ones which the various stakeholders involved may find threatening. Therefore the processes whereby the problem of stress at work is explored, recognized and accepted have to be managed carefully, but with resolve. Success will depend on influencing key decision-makers and stakeholders. Those prosecuting the case might adopt the tactics set out in Box 5.

Box 5. Tactics for influencing decision-makers and stakeholders

1. Seek to legitimize stress-related issues within the hospital by promoting sensible and constructive discussion through legitimate channels, both formal and informal.

2. Accurately target and involve key decision-makers and stakeholders in those discussions.

3. Exploit multiple channels of influence.

4. Address issues realistically, practically and constructively — not emotionally. Do not personalize issues.

5. Develop arguments for action, based on benefits and tailored to needs of different decision-makers (e.g. explore cost, rather than health benefits, for hospital finance managers).

6. Involve stakeholders: do not take ownership of problems away from those experiencing them or from those responsible for them.

7. Educate those involved.

At this stage, the action required of the key decision-makers is to initiate the control cycle and conduct a proper risk assessment as the first step in managing work-related stress in nursing. Such an assessment might be conducted as a separate exercise or treated as a specific feature of a broader and pre-planned work assessment.

There are often two main problems with securing agreement for a risk assessment for stress problems:

1. The threat implied to hospital organizations by this process, which is exacerbated by a lack of understanding of its nature and likely outcomes.

2. The length of time that it will take to complete and the perceived "delay" to dealing with the situation.

Both problems (fears) need to be overcome, and this can be achieved by better educating decision-makers on the nature of stress and the control cycle approach. The information presented in Part 1 should prove useful in this respect.

Case study 1. Problem recognition and acceptance

The General Manager of a major provincial hospital in the United Kingdom had become concerned about the level of absenteeism among particular groups of nurses, particularly those on the medical wards. High absenteeism, in general, was significantly increasing the hospital's operational costs, and the General Manager had decided to address this issue. At the same time, the nurses' union had asked for discussions with management over complaints from its members concerning their workload. Pressure from individual nurses at local meetings had led the union to attempt to initiate such discussions. Nurse supervisors had also been lobbying senior management to take this issue seriously.

Nurses' workload had steadily increased since the hospital had opted for "independent" status when a new management structure had also been introduced. An emphasis on cost effectiveness had led to a "rationalization" (and reduction) of nursing staff, while the through-put of patients, in some specialities, had been increased. There was now pressure on all wards to treat patients more cost effectively with much briefer stays in hospital. Ill-feeling among nurses over the job losses, which were seen as largely causing the increased workload, had led to a detectable decline in morale and a souring of the industrial relations climate in the hospital.

Discussions between the union and hospital management focused on workload and absenteeism, and it was suggested that both might relate to nurses' experience of work-related stress. Advice was taken from various "internal" experts, including the newly appointed Risk Manager and the head of the health psychology department. Both consulted the available organizational statistics and talked to nurse supervisors. They independently suggested that the problems which might be causing nurse stress and absenteeism should be identified and properly assessed. The Risk Manager championed this approach and offered to build it into an on-going risk assessment as a supplementary exercise. This action was agreed by both the General Manager and the union.

Step 2. Analysing work-related stress

Three steps are required for an analysis of work-related stress, and an assessment of the associated risk to health is set out in Box 6. Each step is described in more detail in the following sections of this paper.

Box 6. Analysing work-related stress

> **Step 1**. Planning the assessment.
>
> **Step 2**. Analysing nursing activities.
>
> **Step 3**. Identifying hazards of nursing and potential stressors: anxieties about the more tangible hazards and exposure to the psycho-social hazards.
>
> **and**
>
> Identifying likely harms (nature of ill-health) and describing the mechanisms by which exposure to the stressors inherent in nursing may cause such harm.

Step 2.1. Planning the assessment

Risk assessments must be carried out in a systematic manner, and thus must be planned, and the necessary resources — time and people — marshalled and allocated. The assessment must fit in with the local culture of the hospital, both in the methods it employs and the way in which they are used and described. Planning a risk assessment involves answering three questions:

1. What will the scope of the risk assessment be?
2. Who will carry out the risk assessment?
3. How will the risk assessment be implemented?

Identifying the scope of the assessment. The first question — that of the scope of the assessment — is partly answered by the very nature of this paper: it concerns those hazards which give rise to experience of stress by nurses (stressors) and which effect their health. Staff covered by the assessment should also be identified and the risk assessment exercise explained to them in order to frame their expectations. The second question — that of who will conduct the assessment — requires greater consideration, as does the third question — that of how will the assessment be implemented.

Choosing assessors: The risk assessment team. It is important — practically, organizationally and in law — that those involved in the assessment process are able to carry out a suitable and

sufficient assessment and that they have access to competent advisers. Competence should be judged in terms of:

(a)   knowledge of risk assessment, stress in nursing and stress management;
(b)   experience of nursing and hospital management systems; and
(c)   ability to make reliable and valid assessment judgements.

Probably the most effective strategy is to establish a risk assessment team. Such a team might include a hospital manager, a representative of the nursing staff and a "competent" person. All three should have been briefed in relation to psycho-social hazards, stress in nursing and stress management before conducting the assessment. It would be sensible for large hospitals to train their own risk assessment teams, although all, regardless of size, might bring in extra expertise where needed. Responsibility for recruiting and training the risk assessment team, and implementing the assessment, might be delegated to the hospital's Risk Manager or Health and Safety Adviser. Their role as leader and coordinator is a very important one.

Risk assessment implementation. There are a number of steps which need to be taken in a risk assessment implementation (see Box 7). The orchestration of these steps should be the responsibility of the coordinator.

Box 7. Practical steps in a risk assessment implementation

Having brought together the risk assessment team, the coordinator should:

1. Brief senior management and relevant medical and nursing staff on the need for the assessment and on its nature.

2. Train members of the risk assessment team to the required level of competence, paying particular attention to their knowledge of psycho-social hazards, stress and related measurement issues.

3. Undertake a preliminary "overview" analysis of the organization in terms of its nursing groups and geographical/physical layout.

4. Collect and critically review existing information and documentation relevant to the assessment, including organizational statistics and previous assessments, audits or surveys. If possible, talk to the nurses involved.

5. Identify nurses and areas to be assessed and key issues. Nominate a local specialist to facilitate the assessment in each area or with each nursing group. Inform and discuss with nurses involved and nurse supervisors.

6. Agree on or develop methodology for the assessment, considering local culture, previous experience of assessments, etc., and likely issues (see below). Design appropriate record forms. Agree on time schedule for assessment. Consult nurses involved.

7. Conduct the analysis, recording observations and comments and interim assessments, etc., as the exercise is completed.

8. Review all information as a team. Agree on an appropriate description or model of nursing activities. Discuss and agree on the main hazards giving rise to stress in nurses. Estimate the risk to health associated with each stressor and specify the nature of the health risk. Speculate on the exact mechanism by which the hazard effects health. Evaluate the acceptability and tolerability of each risk.

9. Complete risk assessment report.

The risk assessment will be built on a detailed understanding and description or model of nurses' working activities, which will, in turn, support the identification of stressors, and locate exposure to them in the hierarchy or cycle of work activities. The next section discusses the necessary analysis of nursing activities. It introduces the idea of working with different levels of description to pin-point and then analyse sources of stress in nursing.

Case study 2. Analysis of work-related stress

The Risk Manager, who had previously attended a course in risk assessment and risk management at a local university, took responsibility for the overall project and immediately recruited a small assessment team. This involved a senior member of the hospital's personnel unit and an experienced senior nurse. She then briefed the team on the hospital's risk assessment policy and procedures, and together they discussed the problems that nurses might experience as stressful. They explored how these sources of stress might arise in the nurses' work, what effects they might have, and how both the stressors and their effects might be measured. At this meeting, the team agreed on the scope of the assessment, and agreed on four groups of nurses with whom they might begin the process: nurses from one of the medical wards, the oncology ward, the intensive care unit and the psychogeriatric ward. Letters outlining the nature of the assessment were sent to all the nurses and their supervisors on these wards, and a copy was also sent to the union and the General Manager.

In order to be better informed on likely sources of work-related stress in nursing, the risk assessment team set up a short series of informal tea-time discussions with the four groups of nurses over the problems they faced at work. At least two members of the risk assessment team were present at each of these discussions, which generally lasted about 30 minutes and were held at the end of the day shift. Following the last discussion, the team met and reflected on what they had learnt from talking to the nurses. At this meeting, the Risk Manager also attempted to summarize the somewhat poor organizational data on absenteeism, accidents and staff turnover.

A checklist of likely stressors was drawn up on the basis of the information available to the team and that provided in this document . The checklist was supplemented by a set of notes which the assessment team agreed would help them identify and assess those stressors and their effects. A starting date and provisional schedule for the assessment were also agreed upon and the relevant nurse supervisors were consulted by telephone. Some modifications to the schedule were necessary after consulting the supervisors.

It was also agreed that the Risk Manager would ask an expert on stress research and stress management from the local university to act as mentor to the risk assessment process.

Step 2.2. Analysing nursing activities

Preliminary to work analysis, an organizational model of the hospital should be developed which specifies for nursing staff:

- the different identifiable nurse groups,
- their geographical/physical work areas,

- their generic activities, and
- their specific activities and unusual or noteworthy conditions by area or group.

Data are then collected to build up a description of (1) what nurses do and how they do those things; (2) why and when they do them; and (3) how those different things link together, both in their organization and in their timing, to form the overall work of the nurse. There are a number of different ways in which the necessary data might be collected.

— Walk-through observation.
— Systematic observation (with or without video recording).
— Structured or semi-structured interviews with nurses, nurse managers, other professionals and patients.
— Formal knowledge elicitation using computer-based or pencil-and-paper techniques.
— Formal or informal group discussions.
— Questionnaire-based surveys.

Whatever the other methods used, the risk assessment team should initially conduct a series of walk-through observations with the nominated local specialists to cover the different assessment areas and groups. During these surveys, the team should talk to nursing staff and patients, as well as observing them working and the nature of their work environment and work interactions. Throughout the assessment, efforts should be made to cross-check information and collect supporting evidence.

Description or modelling of nurses' work. An important question is how the assessment team can represent, describe or otherwise model information on nurses' work activities. The data collected might best be presented visually as a series of top-down charts of the task hierarchy which comprises the job, elaborated by flow charts which describe the progression of activities which make up each of those tasks. Some estimation needs to be made of the relative importance and time spent in each task, sub-task or task element. Together, these data will describe a model of the nurses' work, which can then be used as a framework for locating hazard exposure in time and work space.

Hierarchical (top-down) methods force a description of the work in terms of its constituent tasks, sub-tasks and task elements, each level being identified and broken down into its component tasks until the integrity of these elements of work is challenged. The organization of the elements, sub-tasks and tasks is represented in a root-like (or inverted tree-like) structure — top down. This form of analysis is applicable to most forms of work, but is most appropriate where the work is complex, rather than repetitive, in nature. Simpler and more repetitive work may be better described by a method of sequential analysis. This is more procedural in nature. Here the main components of work are identified and the order of the work is described in a flow diagram or chart. This form of analysis is useful where work is predictable and repetitive in nature. In some tasks — and nursing may well be one of these — it is useful to combine both forms of analysis and data representation: the hierarchical analysis giving the main structure of the nurses' work, and the sequential analysis being used to cover the important procedures that comprise the different tasks and sub-tasks. A more advanced representation of nurses' work, and one which

can handle the interactions and contingencies linking tasks, might be achieved using computer-based expert systems technology.

Step 2.3. Identifying stressors

Nurses are asked to describe their problems at work and their associated experience of stress, and to do so using the model of nursing activities as an explanatory tool. Nurses should also be asked about the effects of that experience on their health, well-being and job performance. As they articulate their various problems and the effects of those problems, they should be gently challenged to provide evidence to support their commentary. Data from groups of nurses should be combined and the main group problems identified along with their likely effects. Attempts should be made at this stage to filter out any problems or effects for which there is no supporting evidence. Having identified the likely stressors, it is important to map them onto the model of nurses' work activities already developed. This places them into context, and locates them in time and work space.

Identifying stressful hazards (stressors) is a critical feature of the control cycle approach to stress management. Two points need to be borne in mind by the assessment team concerning the notion of a hazard. First, it may be necessary to distinguish in nurses' accounts between "hazards", "hazardous situations" and the "hazardous or trigger events". A hazardous situation is a situation or set of circumstances in which a person interacts with the hazard but is not necessarily exposed to it. A hazardous event is the trigger which exposes the person to the hazard: it initiates the chain of events leading to harm. The hazard is an aspect of work or of the work environment, the hazardous situation is effectively that aspect in use. For situations involving acute exposure, the hazardous event describes the breakdown of use — the error or accident. Consider a nurse working with an HIV-positive patient. The actual hazard, or the agent of harm, is the human immuno-deficiency virus (HIV). The hazardous situation for nurses is nursing patients who are HIV positive, and the hazardous event (error, accident or technical failure) may be a needle-stick injury which results in contact with the patient's infected blood. HIV carries a potential for harm, but it is only when the nurse works with that hazard that such harm may be expressed (hazardous situation), and only then when a breakdown in safe working practice occurs (hazardous event). The person is at risk of harm in a hazardous situation. The sequence of events leading to harm is triggered by the hazardous event.

The second point relates to the distinction between acute and chronic exposure to hazards. The example provided above relates to acute exposure — during a needle-stick injury — to the HIV. If the example used had been based on chronic rather than acute exposure, there would have been a convergence between the notions of the hazardous situation and the hazardous or trigger event. The exposure to the hazard would be ongoing and, in a sense, the hazardous situation would represent in itself a slowly forming or "slow" accident. Several of the major sources of stress associated with the work of nurses (for example, work overload and lack of control over work) are chronic, rather than acute, in nature.

Hazcheck. This present assessment focuses on the experience of stress in nursing which can arise in relation to anxieties about the more tangible hazards of the job or from exposure to its psycho-social hazards (see Table 2). The Hazcheck can be used as an aid in the identification of the hazards of nursing associated with the experience of stress, and in their subsequent assessment.

Table 2. Hazcheck for nurses
[See Table 1 for referencing of sources of stress indicated in bold]

Work characteristic	Source of stress (hazardous conditions) [high likelihood conditions**]	Absent/Low <u>or</u> Present/ Medium <u>or</u> Very obvious/ Severe (please specify)
Organizational function and culture	Poor communications Organization as poor task environment Poor problem-solving environment Poor development environment	
Participation	**Low participation in decision-making****	
Career development and job status	Career uncertainty Career stagnation	
Role in organization	**Role ambiguity: not clear on role**** Role conflict **Responsibility for others or continual contact with other people****	
Job content	Ill-defined work High uncertainty Lack of variety Fragmented work Meaningless work Under-utilization of skill Lack of control over work content Physical constraint	
Workload and work pace	**Work overload**** Work underload **Lack of control over workload**** High levels of pacing Lack of control over pacing Time pressure and deadlines	
Work organization	Inflexible work schedule Unpredictable hours **Long hours or unsociable hours**** **Lack of control over working hours** Shift work	
Interpersonal relationships at work	Social or physical isolation **Lack of social support from other staff**** **Conflict with other nurses**** **Conflict with other staff**** Violence **Poor relationship with supervisors and managers**** **Doctors' behaviour and attitudes to nurses**	
Home-work interface	Conflicting demands of work and home Low social or practical support from home Dual career problems	
Preparation and training	**Inadequate preparation for dealing with death and dying**** **Inadequate preparation for dealing with patients' families**** **Concern about technical knowledge-skill****	
Other psycho-social problems	**Lack of resources and staff shortages**** **Concern about treatment and patient care** Others (please specify)	

Anxieties/concerns about other aspects of nursing	(Please specify)	

In-depth analysis of sources of stress. Having described nurses' work activities and identified the likely stressors, the latter have to be analysed in greater depth. Detailed information has to be collected — from the same nurse groups using the same methods — on the nature of the sources of stress, their history and effects, and their interactions. The objectives are to understand why certain demands, events or situations are widely experienced as stressful; how and why they have come about; and what effects they have on nurses' health and performance. As much data as possible should be collected which describe the effects of stress on nurses' health, and the mechanisms by which those effects might come about.

This more detailed information should allow two things: first, an assessment of the risk posed by exposure to these stressors, and, second, ideas concerning the nature of appropriate control and support strategies for effective stress management.

Reliability of information. It is recommended that the risk assessment team always cross-check and seek supporting evidence for the data that they collect. In doing so, the principle of **triangulation** of evidence is recommended. This principle holds that, to be secure, a stressor must be identified by three different means or types of evidence: for example, the walk through a ward might indicate overcrowding of beds which, in conjunction with a scrutiny of hospital admission records for that ward, would provide some support for nurses' reporting an excessive patient workload.

Case study 3. Analysis of work-related stress (continued)

The assessment team formally collected data from the hospital's health and safety and personnel records for the four nursing groups being assessed. These data suggested that nurses involved in the medical and psychogeriatric wards showed high levels of absenteeism. Those in psychogeriatrics also showed a high level of requests for transfer to other duties and a high level of turnover. Data from the Occupational Health Unit revealed that these groups of nurses regularly sought support and advice from occupational health staff. The medical and psychogeriatric wards were provisionally deemed to be "more at risk" than the oncology ward or the intensive care unit.

The assessment team then conducted a "walk-through" survey of the four wards. During the walk through, the team talked to nurses on duty, and examined any available ward-based data on the nature and extent of their workload. The team also spoke to some of the doctors, auxiliary staff and patients in the wards. As a result of the walk through, the team discussed the likely sources of stress in the four wards using the Hazcheck as guidance. A tentative profile of common stressors and of stressors unique to particular duties and wards was drawn up.

The team then brought together the nurse supervisors from the four wards to discuss the tentative profiles and agree on the extent of the problems and of their likely effects on the health of their staff and on absenteeism. The group drew on the data collected during the assessment. The distinction between those stressors common to all four wards and those unique to particular groups or duties was maintained.

The evidence suggested that nurses' workload was the major problem, but one which was compounded by an apparent lack of control over work flow and treatment and discharge decisions. The interactions — and lack of communication with other staff, particularly doctors — was part of this underlying difficulty. Some nurses found shiftworking difficult and particularly when they had to cover for absent colleagues. Interestingly, most of these problems appeared to be hospital-wide and not to effect any one group more than any other. There were some exceptions: problems with handling death and dying, patient's families and difficult patients were obvious in the oncology ward and the intensive care unit.

Step 3. Estimating and evaluating the risk

While it is necessary to identify the stressors inherent in nursing, this is not sufficient on its own for an effective risk assessment. Some estimation and evaluation has to be made of the risks to health implied by exposure to those hazards, taking into account existing control and support measures.

Risk has been variously defined, but is essentially a combination of the likelihood of exposure to the hazard and the severity or magnitude of the harm that can result. It is important to think

carefully about the nature of the harm. For example, the same harm — by nature and severity — may have different consequences for different individuals. Two nurses trip and fracture their ankles. The first is a keen sportswoman, a skier, while the second has a more relaxed and less-active lifestyle. The discomfort and pain may be similar, but the medium-term consequences of the harm — the fractured ankle and restricted mobility — may be different for these two nurses. In estimating risk, it is important to define a number of key parameters: the population at risk, the hazard, the harm and its consequences, and the time scale. The estimation of risk will change as any of these parameters change.

A convenient method of approximating risk estimations has been suggested by Cox, based on the concept of the risk matrix.[41] Two values are assigned to each stressor: first, an exposure estimate, and, second, an outcome estimate.

The exposure estimate can take one of two forms as appropriate. For stressors which are acute, a frequency-based estimate is appropriate. The risk assessment team should decide on the likelihood of exposure to the stressor. For example, it would be appropriate to estimate the likelihood of a nurse being exposed to a violent incident on her or his ward. For stressors which are more chronic, a duration-based estimate is more appropriate. The risk assessment team should decide on the length of exposure to the stressor. For example, it would be appropriate to estimate the length of exposure to excessive workload for a nurse in a particular ward.

The outcome estimate can be made at one of two levels: both require good occupational health and/or personnel data on which to base that estimate.

First, an overall estimate of the severity of harm could be made, taking all possible outcomes together. Although this has appeal, in that it simplifies subsequent decision-making, it is not always meaningful. On the other hand, the most likely health outcomes should be identified during the analysis, and these could be estimated separately. In subsequent decision-making, the worst cases could be considered. When the estimation of severity of outcome is made, account should be taken of existing control and support measures and their effectiveness. This may require a careful audit of existing management systems, occupational health and welfare practices, and employee support. Very simple scales for assessing exposure and severity of outcome are suggested in Box 8.

[41] S. Cox: *Risk assessment toolkit* (Loughborough, Centre for Extension Studies, Loughborough University of Technology, 1992).

Box 8. Scales for estimating exposure and severity of outcome: Risk assessment matrix

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Exposure: Likelihood

[1] LOW — [2] MEDIUM — HIGH [3]

Exposure: Duration

[1] LOW — [2] MEDIUM — HIGH [3]

and

Severity of outcome (taking into account existing control and support measures)

[1] LOW — [2] MEDIUM — HIGH [3]

The matrix can be plotted as a 3 x 3 grid, and used to visually present and assess the various risks identified during the analysis. There are three types of cell identified by such a matrix which might warrant action. The critical risks are those which occupy the HIGH EXPOSURE — HIGH OUTCOME cell: arbitrary value (9). In addition, there will be a range of cells with the arbitrary value (6) which may need to be carefully scrutinized and then ranked in terms of the priority for action: MEDIUM EXPOSURE — HIGH OUTCOME and HIGH EXPOSURE — MEDIUM OUTCOME. Finally, there will be one cell, arbitrary value (3), which represents LOW EXPOSURE — HIGH OUTCOME. This may also warrant attention.

It should always be remembered that all such devices and schemes for easily estimating risk are weak. They offer no accurate assessment in absolute terms, and they may be unreliable in their detail. They are, however, a useful focus for thinking systematically about the risks of nursing and a useful support for subsequent decision-making.

The next step in the control cycle approach is essentially a decision-making point focused on the evaluation of the risk estimated during the previous stage. Judgements have to be made on the degree of risk, its acceptability or tolerability. Acceptability and tolerability relate the level of risk to internal and external standards, and to the perception of the nurse population, if not the public at large.

Case study 4. Estimating and evaluating the risk

The assessment team collated the information available to them, and spent several meetings discussing the main problems facing nurses in their hospital, and the evidence to support their conclusions. As far as was possible, they carefully cross-checked that evidence before attempting some estimation of the risk implied by the various stressors.

The team used the risk assessment matrix suggested in this paper to attempt a rough quantification and comparison of the risks. This device highlighted a number of problems. The team then drew up a list of the main problems and "at-risk" wards and groups.

Attention focused on three problem areas: (1) workload: a felt lack of control over work flow and lack of involvement in treatment and discharge decisions; (2) poor communication between staff, particularly medical and nursing staff; and (3) lack of training in dealing with death and dying and patients' families. The first two problems were common to all four wards, and the third was most felt in the oncology ward and the intensive care unit. All three problem scenarios scored [an arbitrary value of] 6 (HIGH EXPOSURE — MEDIUM OUTCOME) on the risk assessment matrix

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2.3.   Design of stress management strategies

In designing stress management strategies, attention should be paid to the total work system, which includes the organizational, social and physical environments; the technology in use; the work systems; and the people involved. Strategies for managing work-related stress which do not adopt such a total systems approach will not prove adequate. Furthermore, it is not sufficient nor effective to solely rely on any one type of strategy. It is not sensible to simply add rehabilitative services or facilities, such as work counselling, into the workplace. The whole range of possible strategies needs to be considered and those chosen integrated into a coherent control programme. Furthermore, a total systems approach to stress management should be framed by the formulation of an occupational health policy which deals with work-related stress and its possible health effects. A common argument against this scale of commitment is cost; however, much can often be achieved within organizations by exploiting existing resources.

This section sets out some of the principles behind a total systems approach, and describes the types of stress management strategies that might be built into such an approach. It then recommends a simple process for designing likely stress management strategies based on a planning matrix: **the total system matrix**. It has been suggested that strategies for managing work-related stress can be categorized according to a three-dimensional matrix. The first dimension refers to the **type of strategy** used — at what level should the intervention be pitched; the second dimension refers to the **target** (the nurse or the organization) — who or what should the intervention be aimed at; and the third dimension refers to the **agency** by which the intervention will be accomplished (through the organization, external consultants or the nurses

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themselves) — who should carry out the intervention. This framework is expanded on in this paper as a basis for the total system matrix, and illustrated in terms of "agency-target" pairs.

There are therefore several decisions which need to be made when completing the total system matrix and planning a coherent and integrated stress management strategy: (1) objectives to be achieved by strategies, (2) level of control, (3) target for strategy, and (4) implementation agents. Together these different decisions will define the stress management strategy to be implemented following the risk assessment. A specification might be drawn up by the risk management team as shown in Box 9.

Box 9. The specification for a stress management strategy

> The specification for a stress management strategy should cover:
>
> 1. The objectives to be achieved (likely outcomes). What is going to be achieved (and when)?
>
> 2. The level of control involved (the nature of the intervention): prevention, timely reaction or rehabilitation. How are the objectives going to be achieved?
>
> 3. The target for the strategy (the nurse or the organization). Who or what is the intervention is aimed at?
>
> 4. The implementation agents (the organization, external consultants or the nurses themselves). Who is going to carry out the implementation?

Objectives

The objectives of the stress management strategy will be determined by the results of the risk assessment, and should be incorporated into the risk assessment report. They might be simply set out as a series of separate behavioural or organizational statements, or woven into a more complex and dynamic vision. Whatever form they take, they should be anchored in the risk assessment data and supportable from that data. If this is so, then it should be relatively easy to identify ways of measuring the impact of the chosen strategy.

Level of control

It has been suggested by the authors that, in practice, strategies for managing work-related stress exist at three levels in relation to nursing: prevention, timely reaction and rehabilitation.[42] These are described in Box 10.

Here prevention concerns removing the sources of stress from nurses' work, reducing exposure to them or otherwise preventing them from effecting nurses. Timely reaction refers to the availability of management systems and tools and group mechanisms, for recognizing problems in nursing as they arise, and quickly and appropriately solving them. Rehabilitation includes treatment, and is concerned with dealing with the effects of stress on nurses and their groups. It is largely dealing with the "walking wounded".

The health and safety legislation in some European countries, particularly those in Scandinavia, makes clear the preference for prevention over timely reaction and rehabilitation (correction). This principle is clearly accepted in most countries even if it is not made explicit in legislation. However, it is also important in most common law (or its equivalent) that organizations — including hospitals — should have management and support systems capable of timely reaction should staff express serious problems. This paper suggests that the three levels of stress management, in addition to providing a scheme for classifying strategies, also describe priorities for control: prevention first, then timely reaction, and finally rehabilitation.

Box 10. Levels of intervention for stress management strategies

1. **Prevention**. Often controlled by the improved design, organization or management of nurses' work, or through nurses' training, to remove sources of stress, reduce exposure to those stressors or reduce their impact on nurses.

2. **Timely reaction**. Often based on timely management action and problem-solving to improve the hospital or ward team's ability to recognize and deal with stressful problems as they arise.

3. **Rehabilitation**. Often involving enhanced employee or personnel support (including counselling) to help nurses cope with and recover from stressful problems.

Target

The question of the target for a stress management strategy simply concerns who or what the strategy is aimed at. There are two obvious targets for any stress management strategy: the nurse or the organization, although some distinctions can be made within this simple dichotomy. The nurse may be represented as an individual or in terms of the nursing group. At the same time, the

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[42] Cox, *Stress research and stress management*, op. cit.; T. Cox, A. Griffiths and S. Cox: "Stress explosion: Managing stress at work", in *Health and Safety at Work*, June 1993, pp. 16-18.

organization can be represented at several different levels, including the ward and the hospital as a whole.

Although this basic distinction between nurse and organization appears a simple one, it has important implications. In particular, there is the question of assumed responsibility for the experience and effects of stress. These have to be carefully considered when designing a stress management strategy. For example, strategies which focus only on the individual nurse, e.g. through stress management training and counselling, may be taken to imply that the experience of stress is determined more by individual characteristics than by working conditions, and that final responsibility for that experience and its effects rests with the individual nurse. The hospital, as an organization, may intend to help its nurses as individuals, while, at the same time, appearing to attribute responsibility for stress to them. Similar arguments may be constructed around strategies which only consider working conditions. A balanced approach, blending both types of strategy as indicated by the risk assessment, is recommended in this paper.

Implementation agents

The question of implementation agents for stress management strategies simply concerns who is going to carry the strategy out. There are three (possibly four) different agents which can, and have been, used in implementing stress management strategies in organizations. These are the organization (through its management and various systems), external consultants and the workers (nurses) themselves. It may be useful in some contexts to further distinguish between workers (nurses) acting as individuals and in groups.

Again the question of attribution of responsibility can be raised in relation to choice of agency for change. The same arguments can be put forward as have been explicated in relation to the question of target. Obviously, any strategy which is solely reliant on, say, individual nurses changing their own behaviour, is to be avoided, and, again, a balanced and mixed strategy is recommended.

Agency-target pairs

There have been several authoritative reviews of the general stress management literature.[43] These suggest that of all the possible combinations of strategy (objectives, level), target and agency, only three are in common use. These are job redesign, worker training and enhanced employee support. Job redesign most often attempts prevention through the organization acting to put its own house in order. Worker training may also be presented as a form of prevention, but involves the organization (or associated external consultants) acting on the individual worker (or groups of workers). Finally, enhanced employee support, particularly as counselling, usually offers rehabilitation, with the organization (or external consultants) acting on the level of the individual

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[43] L.R. Murphy: "Occupational stress management: A review and appraisal", in *Journal of Occupational Psychology*, Vol. 57, 1984, pp. 1-15; L.R. Murphy: "Workplace interventions for stress reduction and prevention", in C.L. Cooper and R. Payne (eds.): *Causes, coping and consequences of stress at work* (Chichester, John Wiley, 1988); Cox, *Stress research and stress management*, op. cit.

worker. Health promotion in the workplace, which may form part of a programme of employee support, can offer both prevention and rehabilitation. Although it often represents the organization acting on the level of the individual worker, it will only be successful if that worker takes ownership of the programme. Many working individuals and groups also institute their own health promotion programmes without the need for any organizational involvement. The three main agency-target pairs are discussed in more detail below (see Box 11).

Box 11. Agency-target pairs

➜ **Organization-organization**

For example, organization development, job redesign, improved management systems or staff selection procedures.

➜ **Organization-nurse**

For example, improved nurse training, health promotion or employee counselling.

➜ **Nurse-nurse**

For example, better time management, development of healthier lifestyle (e.g. cessation of smoking and more exercise), and building good social support from friends and family.

Organization-organization: What the organization can do to put its own house in order

Essentially, organizationally implemented and targeted strategies focus on three areas: the nature of the organization and the work it supports; how that work is managed; and how staff are supported in carrying out that work. While task completion is the responsibility of line management, staff support is often a shared responsibility between line and functional management. The latter include personnel, training, occupational health, and health and safety advisers and managers. Both groups are implicated in organizationally driven strategies.

Several different approaches might be woven into a stress management strategy as indicated by the results of the risk assessment. Some ideas are set out in Box 12 below. Interestingly, although logically a form of stress management and, on the basis of the available evidence,[44] an effective form of stress management, the approaches outlined in Box 12 are often not referred to in this way, particularly by those who are medically or otherwise clinically oriented.

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[44] Cox, *Stress research and stress management*, op. cit.

Box 12. Ideas for stress management targeted on and implemented by the organization

➜ **Organizational and job design**

— Redesign jobs and reorganize work systems.
— Redesign of work technology and work environments.
— Develop the structure and culture of the hospital organization.

➜ **Line management**

— Develop management philosophy and practice.
— Redesign management systems.

➜ **Functional management**

— Develop selection and placement systems.
— Develop appraisal systems and career development structures.
— Develop education and training functions.
— Enhance occupational health function.
— Improve health and safety systems.

Given the nature of organizationally focused strategies, there is the question of the role of *functional management*, such as occupational health and health and safety.

These functions may serve three organizational purposes in addition to their specialist roles: first, they may champion risk management and hazard control in relation to stress; second, they may provide an integrative overview of such problems and their control; third, they may provide the necessary expertise to support action by the organization.

Organization-nurse: What can the hospital do to assist individual nurses?

In addition to putting its own house in order, the organization might consider how it can provide personal protection and enhanced support for its workers in addition to that received through their line management. Personal protection will probably be more important in relation to anxieties over the more tangible and physical hazards of nursing than in relation to the more psycho-social hazards and stressors.

A relatively small number of large organizations support a traditional occupational health service; others buy into local medical expertise or otherwise employ private medical services. In addition, many organizations, both in Europe and the United States, offer their staff access to special programmes designed to improve their general health and fitness (health promotion in the workplace) and help them cope with the challenge of work (employee assistance programmes — EAPs).

In practice, health promotion is largely preventive in nature, while employee assistance programmes are largely rehabilitative. However, it can be argued that employee assistance may also fulfil a preventive function, and health promotion may, by the nature of its activities, also be rehabilitative. It is not surprising, therefore, that such programmes are currently converging both in their design and implementation. The evidence suggests that combined programmes have several common elements:

1. The provision of health promotion information (usually smoking cessation, weight control, controlled drinking and diet).
2. Fitness and relaxation training.
3. Group discussions and/or access to a professional counsellor.
4. Training in coping skills (such as time management or assertiveness).

While the literature describing the nature and implementation of different health promotion and employee assistance programmes is substantial, that on their effectiveness is less so. However, attempts at systematic evaluation have been made. The results of these studies point up the context dependency of programme effectiveness and the complexity of such initiatives. A useful summary of recent workplace interventions in relation to stress, including employee assistance, has been presented by the International Labour Office.[45]

Nurse-nurse: What can individual nurses do to help themselves?

Although set up and sponsored by the organization, health promotion and employee assistance programmes can only succeed if the individuals involved are convinced of their value and are drawn into participation. They have to accept at least part ownership of their problems. Much of what is on offer can be taken on-board by those individuals outside of work. Thus the question of what the organization can do for the individual worker becomes what can the individual worker do for himself or herself?

There are several different ways in which nurses can improve their general well-being and robustness in facing stress at work. Interestingly, the popular concept of healthy living being restrictive and boring is quite untrue. Developing a personal strategy for healthy living will not prevent individuals from enjoying life; what it will do is help people survive the pressures of life. The main areas of such a plan are set out in Box 13.

[45] ILO: *Conditions of Work Digest* on *Preventing stress at work*, Vol. 11, No. 2, 1992.

Box 13. Individual strategies and action options for stress

Behavioural changes

1. Develop a more healthy diet, avoid junk food and take regular meals. Obtain optimum weight.
2. Stop smoking.
3. Reduce and better control alcohol intake.
4. Take regular exercise, preferably rhythmic aerobic exercise in company which is fun. Build up gradually until you are physically fit.
5. Learn to relax, taking up regular relaxation exercises and create time and space for yourself.
6. Ensure adequate rest (during the day) and sleep.

Psychological changes

1. Be more assertive, learning to say "no" firmly and pleasantly.
2. Plan and better manage your time and priorities. Develop a long-term plan.
3. Develop better self-control and a sense of control over events which affect you.
4. Learn to express and work through your emotions, in particular anger.
5. Be flexible in the way you approach problems and willing to consider new ideas.
6. Look for ways in which you can develop your knowledge and skills.
7. Reward yourself for doing things right.

Social changes

1. Develop your social contacts both at home and at work.
2. Be supportive of others.
3. Do not be embarrassed to ask for help or advice when you need it.
4. Discuss problems with friends calmly and constructively.

Checklists for healthy living or coping with stress are definitely not designed as cures for those with major problems, nor are they meant to provide an alternative to seeking appropriate professional help. Equally, it is not being suggested that any hospital should believe that by helping their staff deal with stress at work they are absolved from taking a hard look at their own structure, procedures and function as possible sources of stress.

Risk assessment and subsequent strategy

It has been repeatedly argued that the design of the stress management strategy should follow on logically from the results of the risk assessment. This point is made again below. Thus the various elements of a strategy, which have been briefly outlined above, could be matched to the different problem areas listed earlier both in Part 1 (Table 1) and in Part 2 (Table 2: Hazcheck).

It was pointed out in Part 1 that nurses often experienced stress through problems with work overload and lack of control over workload. Such problems may reflect on the allocation of nurses to wards by the hospital, the design of their jobs, the style of ward management, and communication between nurses and other staff. It might also reflect on the level of training and preparation

received by nurses for the tasks they have to complete, and the level of support received from other staff. Therefore, a stress management strategy for work overload and lack of control over workload might involve several different elements, including:

- development of organizational function and allocation of staff to wards;
- development of management function and style of management;
- job redesign;
- review of communication and inter-group support at ward level;
- review and development of nurse training; and
- nurse counselling.

This mixture includes action at both the organization-organization and organization-nurse levels. Such actions should obviously be supported by actions taken by the nurses themselves. It invests heavily in prevention, but offers some timely reaction (through a review of the allocation of nurses to wards) and some rehabilitation (through nurse counselling). Similar strategies can be worked out for other problems, but need to be developed as part of the risk assessment/risk management process, with those involved, and not simply "lifted off the shelf" as prescriptions.

Choice of a suitable strategy

A variety of different strategies for stress management have been described in this section: the question remains how can a reasonable and practicable strategy be crafted from these various elements to suit any particular problem and hospital? A six-step process can be recommended to support the choice of such a strategy. This is set out in Box 14.

Box 14. Choice of control strategies

Step 1	Define and then explore the nature of the problem using risk assessment report and supporting evidence.
Step 2	Logically derive solutions based on that information.
Step 3	Brainstorm (creatively explore), extending and integrating those solutions within the framework of the total work system.
Step 4	Evaluate the feasibility of the combined solutions, seeking a reasonable and practicable integration.
Step 5	Present integrated strategy to representatives of hospital management and nurse groups for discussion.
Step 6	Modify if necessary.

Case study 5. Design of stress management strategies

The assessment team reformed as a larger group to plan and implement changes in the organization and management of nurses' work and in their training, which might reduce their experience of stress and associated absenteeism. In a sense, the risk assessment team became the risk management team. Throughout the hospital, however, it remained known as the risk assessment team. The expanded team also included a member of the hospital board, the General Manager, the personnel and finance directors, the Director of Nursing, a medical consultant, and a member of the nurses' union.

The assessment team presented its findings to the expanded group, and discussed their implications with the new members. They then explored possible ways forward in a deliberately constructive way. The team's mentor from the local university was invited to facilitate this meeting.

The expanded team drew up a provisional intervention plan, which was then subsequently and separately discussed both with the union and the board: a modified version was agreed by all parties. It involved actions focused on three problem areas: (1) workload and felt lack of control over work flow and lack of involvement in treatment and discharge decisions; (2) poor communication between staff, particularly between medical and nursing staff; and (3) lack of training for nurses in dealing with death and dying and patients' families. The team, however, strongly believed that, to be maximally effective, these interventions should be marketed and implemented as part of the same programme, and brought in on a longish-term basis. Where possible, they should be based in existing activities and not engender extra costs.

The intervention programme involved actions to improve communication between groups within the hospital at both the formal and informal levels; and to increase nurses' sense of involvement in planning the through-put of patients and the organization of ward duties. In addition, a series of organizational development workshops were planned for mixed groups of nurses and other staff, including doctors, to explore communication issues and ward management. Finally, training courses were planned for nurses to help them in dealing with death and dying and patients' families. Senior nurses were tasked with monitoring the nursing workload and of discussing it with the hospital management. The need for a counselling function within the occupational health unit was to be investigated.

2.4.   Implementation

One of the main reasons why attempts to reduce the experience of work-related stress fail is because insufficient attention is paid to the implementation of what otherwise might be a very good strategy. Planning the implementation of stress management strategies is important, and poor implementation will defeat even the best solution to a problem. Successful implementation is about three things: a plan, people and resources.

Implementation plan

It is necessary to carefully plan the implementation of the chosen stress management strategy. Many of the general points made earlier about planning the risk assessment can be repeated here. Three questions must be answered.

1. What are the objectives and the scope of the strategy?
2. Who and what are required to carry it through?
3. What is the likely time schedule for implementation?

The objectives — and likely outcomes — of the strategy need to be realistically defined. It is important that those involved have realistic expectations of what might be achieved and when. Often false expectations develop, and these can easily lead to a negative reaction to an otherwise successful intervention. The definition of objectives and likely outcomes also lays the foundation for monitoring and formally evaluating the success or failure of the intervention.

Defining objectives and likely outcomes will set the scope of the intervention. The resources required and the people involved need also to be specified. These points are dealt with below. Finally, the plan needs to determine realistically the timing of the intervention, which includes its start and termination dates, and the time when its outcomes are likely to become obvious. This information is very important in the evaluation of the intervention (see below and next section) and in generally shaping expectations.

People. It is necessary to capture the support of key stakeholders in the intervention, and, at the same time, involve and give a sense of ownership to those who are directly effected by that intervention. In order to achieve the former, the risk management team should have a clear idea of who the key stakeholders are — both those involved formally, such as senior management, functional management and unions, and those involved informally, for example people who within the social group are the opinion formers. Deliberate attempts should be made at the outset to "sell" the intervention to the stakeholders, negotiating their support and involvement where necessary. Support should not only be verbal (or written), but also be behavioural. People should be encouraged to demonstrate support through what they do as well as through what they say or write. At the same time, the intervention must be explained to those who it targets and who own the problem that it addresses. Such explanation should also attempt to "sell" them the solution and to involve them in its implementation. Most importantly, it should not take ownership of the problem away from this group. If it does, compliance will prove poor and the solution will likely as not be ineffective.

Resources. All intervention requires resources for their implementation: people, time, space, materials and finance. If the stress management strategy has been developed carefully, the extra resources required may be minimal, but still they should be considered, secured and allocated appropriately. Often management focuses on the extra financial resources required by a strategy, and resists attempts to secure such resources. Equally often, much can be achieved by building on existing programmes without extra budgets or increased spending. For example, stress management training might be built into existing training programmes, or job redesign become

a part of the normal cycle of development activities. Resources are needed for the implementation of any strategy: that has been established. What is often missed is that further resources might be required if the strategy is successful to maintain the change that it has engineered. For example, successfully establishing a counselling programme over a two-year programme may lead to a long-term demand for such a facility, and even to requests for other forms of support. Successfully establishing such a programme in one part of a hospital or for one group of staff may lead to requests for it to be expanded to include the whole hospital or staff group.

In summary, there are several key issues surrounding the implementation of a stress management strategy in a hospital: these are listed in Box 15.

Box 15. Key implementation actions

1. Develop an implementation plan covering the strategy's objectives, likely outcome and scope; who is involved and what resources are required; and its timings.

2. Seek support and commitment of hospital board and management, senior nursing and medical staff, and the relevant unions and professional associations.

3. Inform staff involved, and explain and market strategy to them, securing their involvement and ownership of intervention.

4. Develop realistic expectations from all stakeholders, based on informed understanding of problems, covering extent of change and timing.

5. Identify and secure necessary resources for intervention and for follow through (particularly if successful).

6. Provide clear, timely and meaningful communication with all staff involved during the development of the control intervention.

7. Establish a systematic basis for monitoring and evaluation of control strategies.

The process of intervention is of critical importance, particularly with respect to both informing the staff involved and involving them. Both can substantially contribute to their feelings of ownership and control, and may, for that reason alone, improve their feelings of well-being and their perceptions of their hospital. It is important to actively manage the process as well as the strategy itself, monitoring progress and communicating with the staff involved on a regular basis. This process management function might well be identified as a separate task for the risk management team, and responsibility given to a named member of the team.

Case study 6. Implementation

The team designing and implementing the intervention programme formally presented its plan to the hospital board, where it was approved. The hospital board agreed to allocate resources to support the plan, and also to support the evaluation of the interventions.

The first step in the plan involved selling the strategy to the nursing staff involved in the four wards, and more generally informing the rest of the staff in the hospital about the project. This was achieved in three different ways. Articles on the project were published in the hospital newsletter and broadcasted on the hospital radio. At the same time, letters were sent by the hospital management and by the union to all the nurses on the four wards, summarizing the risk assessment report and explaining the intervention strategy. Their support was asked for. A summary of the risk assessment report was also posted on notice boards in the four wards. Finally, an open meeting was held by the team, at which the whole project was described and discussed. The team's expectations in relation to the intervention strategy were spelled out in the letters sent and at the meeting.

The stress management strategy was introduced at the beginning of October of that year, to be run for 12 months, after which time the team would report back to the hospital board on its success (or otherwise). The board had agreed to renew its support (and the necessary resources) for a further 12 months if the strategy appeared to be working. It had also agreed to the extension of the project at this time if it was proving successful.

Different elements of the overall strategy were managed by different groups within the hospital, but overall coordination remained with the team and the Risk Manager. The nursing supervisors organized regular discussion meetings with their staff, and between their staff and representatives of the appropriate medical teams. These meetings were supported by a programme of workshops organized through the hospital's training group in the personnel department, which also introduced a new programme for nurses in coping with dying and death. The occupational health department, with the Risk Manager and the head of the health psychology department, carried out a review of the need for staff counselling.

2.5. Monitoring and evaluation

No responsible manager in a hospital or elsewhere should fail to ask to what extent has a stress management intervention worked. To this end, it is important to establish effective monitoring systems. The Health and Safety Executive in the United Kingdom distinguishes between active (process) and reactive (outcome) monitoring systems, and emphasizes the importance of active monitoring. To construct a complete picture of safety performance, both types of measurement system are required, and these should be properly integrated into a coherent system of checking occupational health controls.

Types of monitoring

Outcome-based or reactive systems tend to monitor accidents, ill-health and absenteeism, and staff turnover. They generally recognize and report on, inter alia, injuries and cases of ill-health, absenteeism, requests for job transfers, staff turnover and complaints. Securing the reporting of serious injuries, ill-health or long-term illness generally presents few problems to organizations, although the validity of stated diagnoses may sometimes be questionable. However, the reporting of minor injuries tends to prove more difficult. Health screening may provide useful background information on the state of health of the worker population, and at the same time uncover unreported injuries and ill-health. Process-based or active systems are those designed to monitor the achievement of plans and the extent of compliance with procedures and standards. They are process-oriented and provide feedback on occupational health performance before accidents, ill-health or incidents occur.

Data from monitoring systems can be used to evaluate individual control interventions if suitably structured and detailed. Some effort has to be expended, however, in the design of monitoring systems to allow for evaluation.

Monitoring is promoted by a number of different factors, including training and organizational development. First, training can serve to clarify the nature and requirements of the monitoring system, and to motivate workers to use that system. Second, the development of a health and safety-conscious organizational culture will serve to emphasize the importance of an observant and responsive approach to occupational health, and of improving systems of control and monitoring before harm occurs. It should also encourage open and honest communication.

Zone of achievement

Measurement of the effectiveness of stress management strategies should be made against standards. Such standards usually represent what is minimally acceptable and reasonably practicable. However, specialized organizations and agencies should also provide insight into standards of excellence and set wider targets.

These two different sets of criteria define a zone of achievement, its lower limit being what is minimally acceptable and its upper limit what is desirable. The continuous improvement of occupational health can be set against this model. The individual organization is responsible for moving from what is minimally acceptable to what is desirable (intrazonal development), and the wider occupational health community and international agencies and professional bodies are responsible for moving the limits of the zone upwards, defining ever better standards (zonal development).

There are difficulties involved in designing standards in relation to psycho-social and organizational hazards and stress and more research is required of a standards-setting type.

Case study 7. Monitoring

The Risk Manager monitored levels of absenteeism in the four wards involved in the intervention programme and in four other wards during the formulation of the intervention plan, and continued monitoring following its implementation. This allowed its impact to be evaluated. The evidence suggested that absenteeism stabilized during the implementation of the plan and, after six months, a decrease was beginning to be noticeable, particularly in the medical and psychogeriatric wards where it was highest.

In addition to the monitor on absenteeism, a survey of nurses' attitudes to their work and to the hospital was commissioned from the local university before and after the intervention plan had been implemented, and again six months later. This survey showed an immediate improvement in nurses' attitudes to the hospital, and a somewhat delayed improvement in their attitudes to their work.

The general climate in the wards improved, although pockets of scepticism did remain.

On the basis of these data and a generally favourable set of opinions expressed on the wards and by the nurses' union, the board agreed to extend the programme by 12 months and extend it to other parts of the hospital.

Concluding comments

The authors are committed to the development of the control cycle approach to the management of stress at work. They believe that there is growing evidence, from several different areas of organizational life, that it will prove a successful strategy. Its adoption ties stress management into mainstream occupational health and health and safety practice. It also lays the necessary foundations for the introduction into the stress management process of tools exploiting information technology, such as knowledge elicitation techniques and expert systems. One day soon, these will be a regular part of stress management practice and increase our power to intervene successfully in organizations to protect and enhance the health and well-being of our workers.

The authors have a vision of and commitment to a healthy and productive workforce, not only in Europe, but also throughout the world. They hope that this publication makes some contribution to the achievement of this vision.

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