Summary Report - OOS/Stressors and the workplace project

OCCUPATIONAL OVERUSE SYNDROME STRESSORS AND THE WORKPLACE REPORT

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Introduction

As part of the Safety, Rehabilitation and Compensation Commission's Prevention Program, and in response to the growing body of evidence in Australia and overseas of a possible link between occupational overuse syndrome (OOS) and workplace stressors, Comcare undertook to examine:

- whether there exist any relationships between OOS and workplace stressors,
- the impact and interaction of OOS and occupational stress on each other; and
- any cumulative effect of OOS and workplace stressors, where they exist concurrently, on the incidence and severity of OOS and occupational stress in the workplace.(1)

Commencing in 1997, Comcare entered into a co-operative project with two Commonwealth agencies and two research psychologists, Lyndall Strazdins and Monika Reinhart.

(1) Comcare Annual Report, 1997-1998, p 18.

Definitions

Potentially, there are many interpretations of the terms *OOS, Stressors* and *Stress*. In order to ensure greater clarity, for the purpose of this report, these terms are defined in accordance with their application to this project. In considering the resultant findings, interpretations made beyond the scope of these definitions would be unsustainable.

Occupational Overuse Syndrome (OOS) - muscle or tissue damage characterised by discomfort and persistent pain in muscles, tendons and soft tissue in the upper body.

Workplace Stressors - demands from the environment, such as work-role demands and work pace, and perceptions of the environment, such as job control, job boredom and job ambiguity.

Occupational stress - a form of strain, a state of negative emotions and arousal experienced in relation to the work role.

Psychological distress - psychological ill-health involving a clinical condition with sustained symptoms of anxiety and depression.

Project Outline

The initial part of the project required a literature review by the consultants of contemporary information related to the objectives. At the same time the two agencies involved identified regions to be used for surveying staff. The intention was to cover approximately 2,000 staff across both agencies. Comcare, in conjunction with a steering committee, managed the project and provided logistical support.

Following acceptance of the literature review, a draft questionnaire was prepared and trialed within focus groups in both agencies. The questionnaire was then refined, printed and distributed to staff in both agencies, which managed the internal distribution. Returns were made either through the agency or directly to Comcare. The anonymity of respondents was ensured, as the name or a specific identification for each respondent was not required.

Returns were coded and entered into an electronic database which was provided to the consultant psychologists for analysis according to statistical methods determined by the researchers as most appropriate.

A draft report on the findings was prepared, which covered the statistical significance or otherwise of the findings. The report was submitted for peer review to two leading academics in the field, Dr Peter Hart and Professor Ian Glendon (on the advice of the Chairman of the National Occupational Health and Safety Commission, Professor Dennis Else).The consultants' report was then finalised and presented to Comcare and the two participating agencies.

Questionnaire

A detailed self-report questionnaire was used for the collection of information and it required approximately 35 minutes to complete. Detailed factors were examined which covered:

- demographics,
- personality (Type A behaviour(2), Locus of control(3)),
- work stressors,
- social relationships,
- two organisational factors,
- workplace support for OH&S,
- work-environment,
- individual OH&S practices, and
- strain.

Onset information was obtained by the use of three specific factors differentiated by the category of injury. These were:

- OOS onset;
- distress onset; and
- OOS-distress onset (when both symptoms were present).

Outcomes were examined through:

- physical symptoms indicative of OOS, and
- psychological distress.

Psychological distress was measured using the Centre for Epidemiological Studies Depression Scale (CES-D), as it is widely used in Australia and internationally.

Statistical checks for the reliability and the validity of the questionnaire were made and these showed that the questionnaire was appropriate and effective for the factors mentioned above. Further details are at Appendix 1.

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(2) Type A behaviour - characterised by excessive drive and competitiveness, an unrealistic sense of time urgency, inappropriate ambition, a tendency to emphasize quantity of output over quality and a need for control. *The Penguin Dictionary of Psychology*.

(3) Locus of control – measured along a dimension from high internal to high external. An internal person views oneself as having control over their own 'destiny'; an external person being one who tends to see control over 'destiny' as residing elsewhere. *The Penguin Dictionary of Psychology*.

Responses

The questionnaire was distributed to approximately 2,000 staff in both agencies. There were 1,005 responses with an average return rate of 50.5 per cent. This is considered an acceptable participation rate from which to draw conclusions for this type of survey.

Table 1.
Number of respondents by workers' compensation claim status.

Non-claimants	OOS claimants	Stress claimants	Both OOS & Stress claimants	Total number of respondents
797	136	50	22	1005

Sample size is important when considering statistical methods and results. The small numbers for stress-claimants and OOS and stress-claimants required these groups to be combined and the analysis was therefore limited. The two significant groups, statistically, were non-claimants and OOS claimants. Inferences should not be drawn from the small sub-sample of stress claimants.

The size of the OOS-claimant group provided a higher level of certainty to the statistical methods selected and the results. This enabled the use of both descriptive and inferential statistics, so some significant results can be inferred.

The large size of the non-claimant group provided a robust data group that was suitable for higher levels of statistical analysis. The procedures used on this group provided significant findings, based on both descriptive and inferential statistics.

Results

Occupational overuse symptoms appear to be more widespread than previous estimates.

OOS symptoms are influenced by multiple factors. Results support the use of complex models of OOS symptom development that include physical work role demands, workplace culture, personality and health behaviours.

Very few participants intend to lodge a workers' compensation claim for OOS.

Claimants for occupational overuse syndrome are similar to employees with severe OOS levels.

A significant level of psychological distress is indicated in a third of those surveyed.

Results support a model linking workplace factors to psychological distress via occupational stress.

OOS and psychological distress often occur together.

Psychological distress is more likely to be a consequence of occupational overuse symptoms than a cause, in participants who suffered both OOS symptoms and distress.

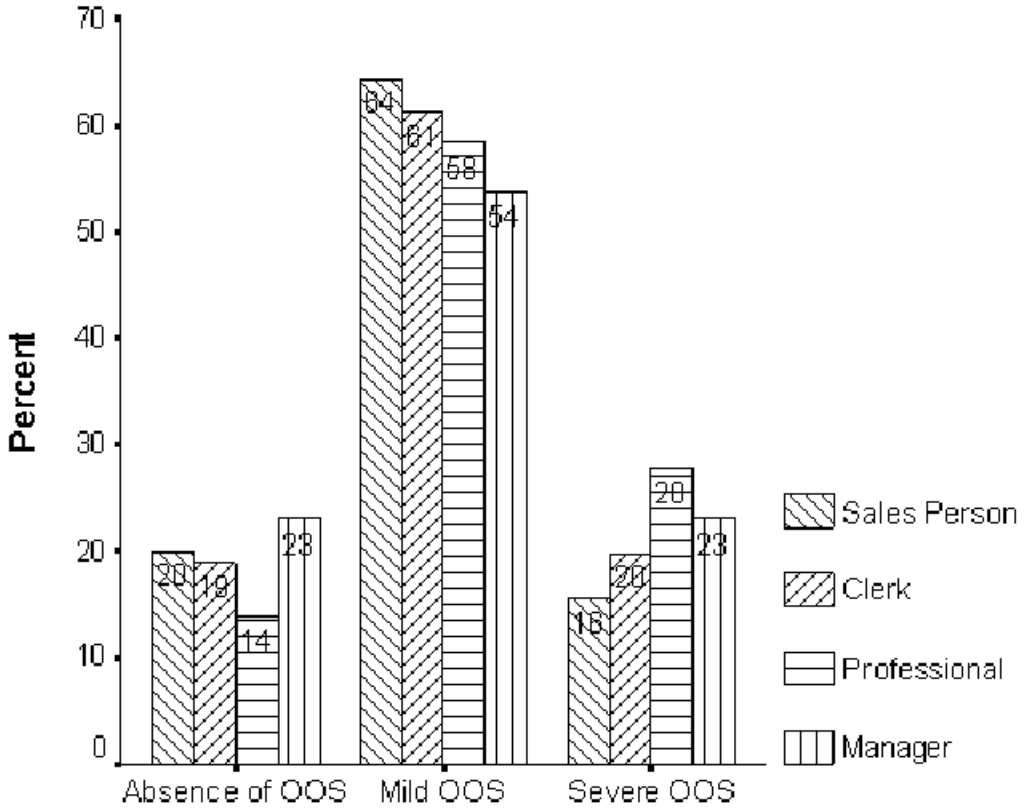
Stress claimant results must be interpreted cautiously. There are very few recent stress claimants sampled and treatment effects are likely to have affected scores.

Stress claimants and OOS claimants can be reliably distinguished.

Occupational overuse symptoms appear to be more widespread than previous estimates.

Eight out of ten respondents who were not workers' compensation claimants reported symptoms of overuse injury, and two out of ten reported that they experienced pain continuously. The same results were shown across managers, professionals and sales staff – all of whom used computers for a large part of their working day.

Figure 1
Prevalence of OOS symptom severity within occupations (percentage for non-

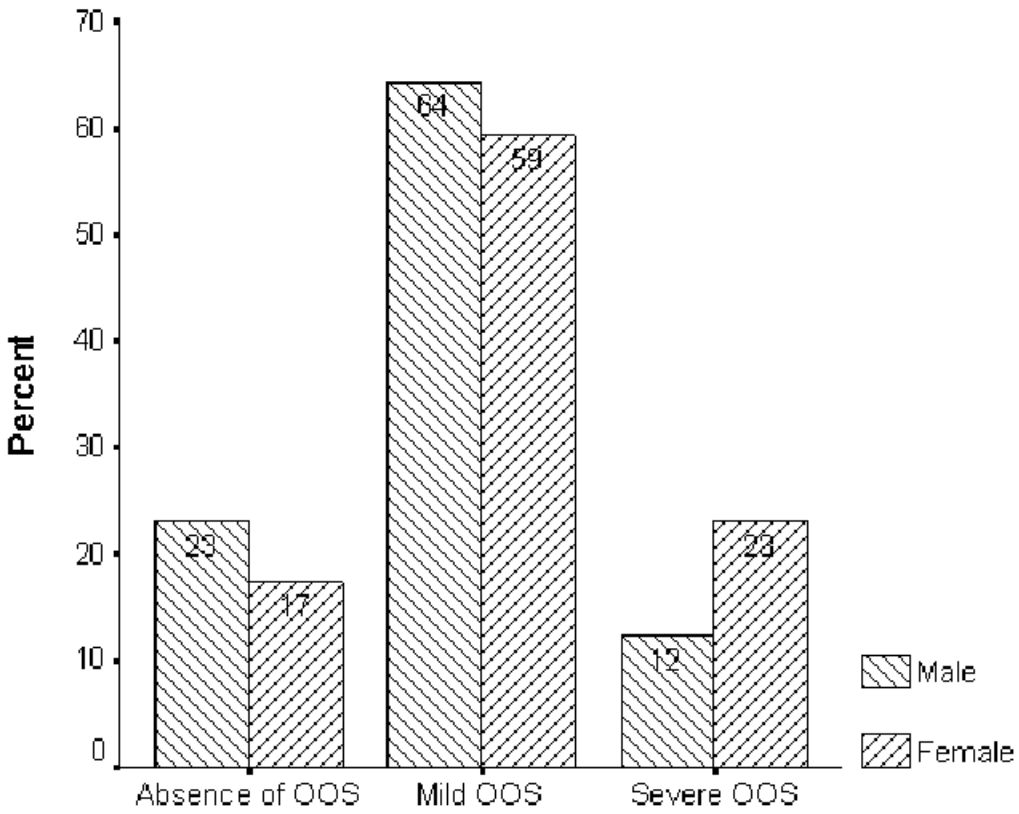


Prevalence of OOS symptoms by Occupation

claimants).

While OOS symptoms were reported more by women and by those from non-English speaking backgrounds, three quarters of the men sampled reported OOS symptoms.

Figure 2
Percentage severity of OOS symptoms by gender (non-claimants).



Prevalence of OOS symptoms by Gender

OOS symptoms are influenced by multiple factors. Results support the use of complex models of OOS symptom development that include physical work role demands, workplace culture, personality and health behaviours.

Occupational stress did not predict OOS symptoms, or interact with other factors to increase OOS symptoms.

Workplace factors were most important, particularly high demands for physically repetitive work, computer use, reportedly poor ergonomic equipment, and an adversarial workplace culture (as indicated by reported low supervisor support, low OH&S support, job insecurity, ambiguity and job boredom).

Type A personality characteristics were also linked to higher OOS symptom levels, and Type A behaviour was increased if the workplace is seen as rewarding competitive, hard driving work behaviour where employees are expected to meet deadlines they find hard to keep and to work extra or long hours.

While the findings do not explain increased OOS symptoms reported by those from non-English speaking backgrounds, the higher level of symptoms reported by women was linked to their lower level of health behaviours. Health behaviours such as poor exercise and lack of relaxation, in turn, are linked to higher OOS symptom levels. The researchers contend that this may be due to lack of leisure time and women's domestic work responsibilities.

Very few participants intend to lodge a workers' compensation claim for OOS.

Nine in ten non-claimant participants with some OOS symptoms indicated that they had no intention of lodging a claim for workers' compensation.Over eight in ten of those with severe OOS symptoms also indicated no intention to lodge a claim. About half the participants indicated that they would not lodge a claim because they believe their OOS symptoms will go away if managed properly. However, only just over a quarter of participants with OOS symptoms reported seeking treatment.

Table 2
Percentages of Reasons for 'not seeking treatment' for Non-claimants with OOS.

Item	Percentage (rank ordered)	Percentage Severe OOS
If managed properly, it would go away	51.2%	37.4%
Did not want to be a burden	21.2%	25.8%
Would have to take time off work	18.6%	23.3%
Would affect career prospects	13.5%	17.8%
Have to work harder when return to work	13.2%	17.8%
Would lose respect of your supervisor	10.7%	12.3%
Would lose respect of your colleagues	10.4%	13.5%
Would lose money	7.7%	12.3%
Have started a new job	5.6%	4.9%
Would lose your job	4.8%	5.5%

Other reasons commonly raised for not lodging a claim included concerns about being a burden, taking time off work and concerns about a negative impact on career, workload and relationships with supervisors and colleagues.

Table 3

Percentages of Reasons for 'not lodging a claim' for Non-Claimants with OOS.

Item	Percentage (rank ordered)	Percentage Severe OOS
If managed properly, it would go away	51.1%	47.9%
Did not want to be a burden	23.4%	35.0%
Would have to take time off work	18.3%	28.2%
Would affect career prospects	16.1%	25.8%
Have to work harder when return to work	14.4%	23.3%
Would lose respect of your supervisor	13.5%	20.9%
Did not want a court case	13.5%	24.5%
Would lose respect of your colleagues	12.5%	19.6%
Would lose money	9.3%	18.4%
Would lose your job	7.1%	11.7%
Have started a new job	5.4%	8.6%

Claimants for occupational overuse syndrome are similar to employees with severe OOS levels.

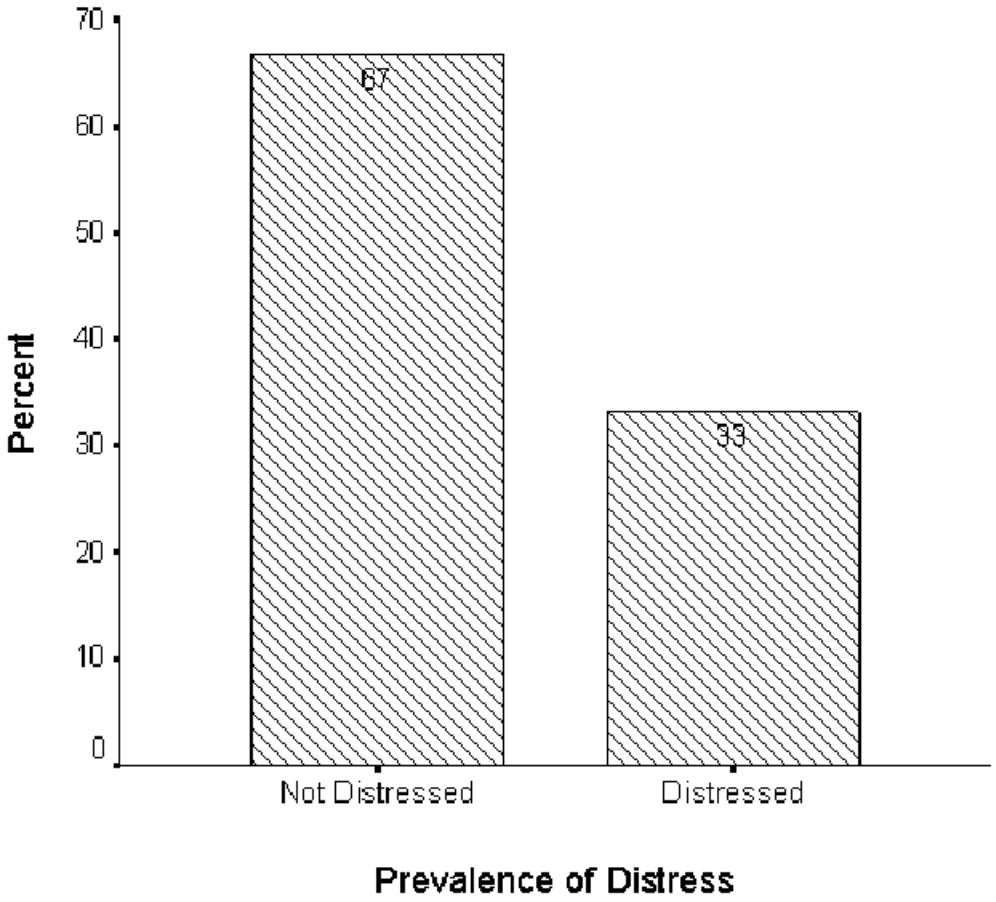
Participants who had lodged claims for OOS reported more severe OOS symptoms, and similar predictors correlate with OOS claimants and non-claimants.

High physical work role demands for repetitive computer use, job insecurity and frequent rest stretch breaks related to more severe OOS symptoms for OOS claimants (the latter two factors, the researchers state, are likely to be due to claimant status and rehabilitation effects).

A significant level of psychological distress is indicated in a third of those surveyed.

A third of those not claiming workers' compensation scored highly on a measure of psychological distress, a level higher than most community estimates. However, the researchers point out that clinical interviews would be required to establish a diagnosis of a defined psychological disorder such as anxiety or depression.

Figure 3
Prevalence of distress (non-claimants).



Results support a model linking workplace factors to psychological distress via occupational stress.

High occupational stress was the best predictor of the psychological distress reported by participants. In turn, the predictors of occupational stress were those which combine to indicate an adversarial workplace culture (see above).

Table 4

Correlations between Work Stressors, OOS Symptoms and Psychological Distress.

	OOS symptoms			Distress		
Predictors	Non -claimants	OOS -claimants	Stress - claimants	Non -claimants	OOS -claimants	Stress -claimants
Work stressors	Min n = 717	Min n = 124	Min n = 48	Min n = 677	Min n = 123	Min n = 48
Job ambiguity	.08*	.16	.04	.19**	.12	.18
Job boredom	.14**	.24**	.01	.20**	.18*	.22
Low job control	.04	.09	.01	.12**	.09	.23
Physical workrole demands	.34**	.34**	.17	.21**	.15	.08
Poor ergonomics	.28**	.05	.13	.18**	.08	.22
Emotional workrole demands	.15**	.05	-.27	.06	-.08	-.05
Job insecurity	.05	.28**	.04	.17**	.23**	.04

Organisational mistrust	.18**	.23*	-.02	.26**	.19*	.30*
Personal responsibility	.02	-.03	.27	-.03	-.15	.07

* p < .05, ** p < .01.

Young people and those from non-English speaking backgrounds were found to be more vulnerable to psychological distress, but this relationship was not explained by personality, work stressors or social relationship differences.

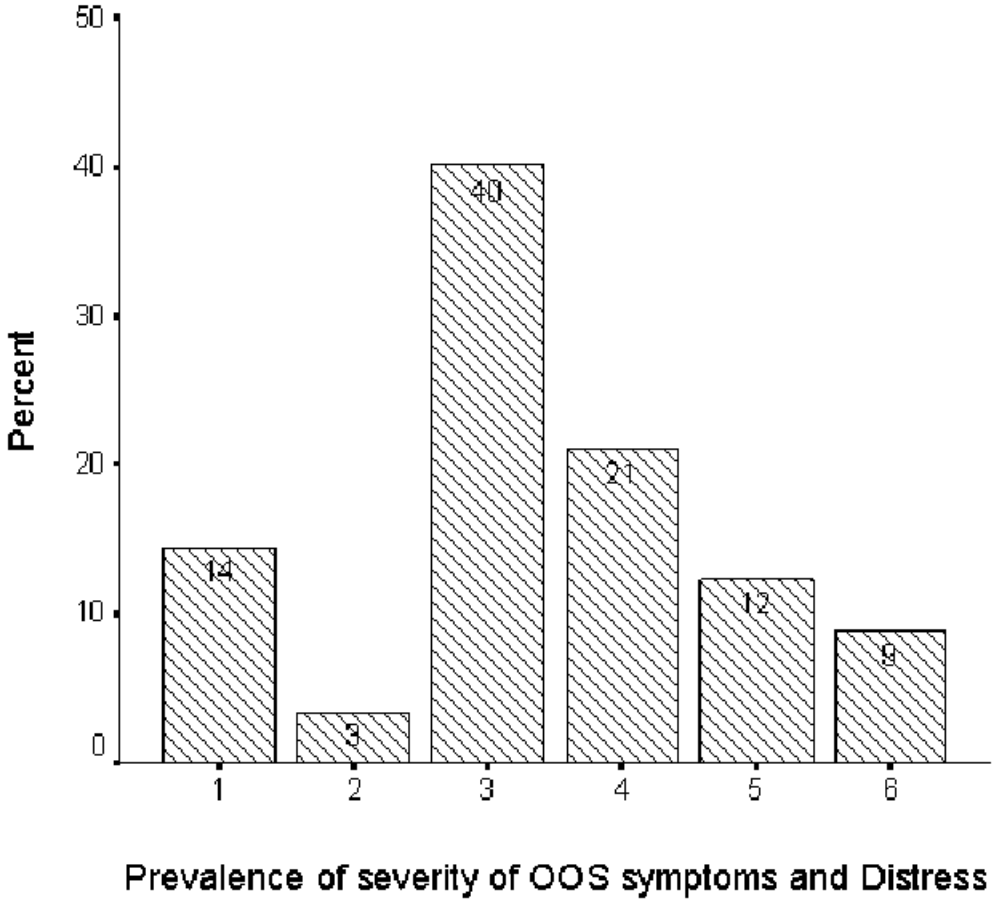
Type A behaviour, an external locus of control and the experience of goal loss (the perception that valued life goals, including career goals, cannot be attained), predicted higher distress levels.

Regularly relaxing and exercising reduced levels of occupational stress and psychological distress.

OOS and psychological distress often occur together.

The great majority (86%) of respondents reported OOS symptoms, psychological distress, or both. About one person in ten reported both severe OOS and distress.

Figure 4
Prevalence of severity of OOS symptoms and distress (non-claimants)



Key: 1 = No OOS - no distress 4 = Mild OOS - distress

2 = No OOS - distress 5 = Severe OOS - no distress

3 = Mild OOS - no distress 6 = Severe OOS - distress

Psychological distress is more likely to be a consequence of occupational overuse symptoms than a cause, in participants who suffered both OOS symptoms and distress.

The majority of participants reported OOS symptoms preceding psychological distress symptoms, and OOS and distress symptom levels were related only when OOS symptoms preceded symptoms of psychological distress. Conversely, psychological distress and OOS symptoms were not related in those participants who reported that distress symptoms preceded OOS symptoms.

Further, psychological distress did not interact with any other factor to predict OOS.

Stress claimant results must be interpreted cautiously. There are very few recent stress claimants sampled and treatment effects are likely to have affected scores.

Stress claimants and OOS claimants can be reliably distinguished.

Compared to OOS claimants, stress claimants had lower OOS symptoms, higher occupational stress, were more likely to be men, report higher levels of job insecurity, and better ergonomic equipment at work.

Future Actions

The study took place at a time of considerable organisational change in the two involved agencies. It was also a time of significant change across Commonwealth employment. While it is not possible to be certain that the two agencies surveyed are representative of Commonwealth employment as a whole, the results of this study clearly highlight a number of issues that need to be considered by Commonwealth employers and employees.

The Safety, Rehabilitation and Compensation Commission will consider the implications of the study's findings in the context of developing its 2000-2001 Business Plan. However, it is timely to remind Commonwealth agencies of the range of practical guidance material already made available, by the Commission, and to encourage its use.

In 1995-96 the Commission identified two specific sub-projects within its Prevention Program. These were:

- the SRCC Strategy for the Prevention and Management of Musculoskeletal Injuries (including Manual Handling Injuries and Occupational Overuse Syndrome); and
- the SRCC Strategy for the Prevention and Management of Occupational Stress.

These projects resulted in the identification, development and publication of practical guidance material designed to reduce the incidence of OOS and Occupational Stress in Commonwealth employment.

The following SRC Commission/Comcare publications have been provided to Commonwealth Departments and agencies, are available on Comcare's Internet site at www.comcare.gov.au and many may be ordered through Comcare's OHS Hotline (Ph 1800-642-770).

- Manual Handling & Occupational Overuse Syndrome Resources (1996) Fact Sheet - 5 pages (FS 20)

The purpose of this fact sheet is to assist organisations find useful information on the prevention of OOS injuries. It lists appropriate books, booklets, journals, codes of practice and training resources, and provides relevant contact details.

- Approved code of practice on the prevention of Occupational Overuse Syndrome (1995) Fact Sheet - 2 pages (FS 7)

This fact sheet provides an overview of the code of practice. It covers the elements of risk identification, assessment and control in relation to OOS hazards.

- Taking Control of Occupational Overuse Syndrome - a pilot prevention program (1997) Booklet - 64 pages (OHS BK 5)

This publication documents a pilot OOS prevention program in an office environment. The pilot was undertaken as a cooperative project between Comcare and the Australian Taxation Office. The book provides an organisation with some tools to assist in the development and implementation of a OOS prevention program.

- Prevention of Occupational Overuse Syndrome – Policy and Strategy. [A joint project with the National OH&S Forum] (1997) Booklet – 42 pages + disk.

The publication is designed to provide Commonwealth organisations with a model policy and strategy for the prevention of OOS in the workplace.

- Officewise - A guide to health & safety in the office - (1996) Booklet - 88 pages (OHS BK 1)

Officewise covers a range of OHS issues relevant to an office environment including job design in office work, office layout, workstations and equipment, working with VDUs and managing OHS in the office.

- A Supervisors Handbook: Managing staff with stress responses. (Quality of Working Life series - available on Internet site only)

Part of the Quality of Working Life series, this publication provides practical advice to managers in relation to managing staff who exhibit stress responses. It encourages early intervention at work and an early, but safe, return to work for injured employees.

- *The Management of Occupational Stress in Commonwealth Agencies* - A Joint ANAO / Comcare Better Practice Guide for Senior Managers Booklet - 28 pages
- *The Management of Occupational Stress in Commonwealth Agencies* - Implementing an Occupational Stress Prevention Program Booklet - 24 pages

Distributed to all SES Officers, these two publications identify best practice in the management of occupational stress. The first draws upon ANOA Audit Report No 8 1997-98 as well as cooperative projects conducted by Comcare with Commonwealth Agencies.

The second publication is a practical guide to establishing a process to identify, assess and control the risks of occupational stress and provides examples of initiatives which could easily be undertaken by Commonwealth employers.

- Occupational Health and Safety Risk Management in Commonwealth Agencies - Identifying Hazards, Managing Risks (1999) Booklet - 24 pages (OHS Book 10)

This publication presents a general Hazard Identification – Risk Assessment – Risk Management model but also includes practical advice and examples of the model's application in the workplace. Although the publication deals with issues such as Plant, Confined Spaces and Hazardous Substances, two modules in particular, 'The way work is organised' and ' The way people are managed' are address the risks and control measures associated with occupational stress.

These materials comprise a significant resource collection designed for practical application within Commonwealth workplaces throughout Australia. Utilising these resources, along with additional material produced by State and Territory OHS Authorities, the National Occupational Health and Safety Commission and others, Commonwealth employers are well equipped to address and control the risks of Occupational Overuse Syndrome and Occupational Stress.

APPENDIX 1

Details of questionnaire factors.

Demographics were collected for nine factors that covered:

- four personal factors - age, gender, ethnicity and highest level of education attained; and
- five work-related factors - occupation, job experience, paid work status, paid work hours, number of client contacts per day.

These factors were chosen from the demographic items used by the Australian Bureau of Statistics.

Personality characteristics were examined using the two factors:

- Type A behaviour; and
- internal verses external locus of control.

The first factor has an Australian-specific norm for comparison purposes while the latter has an international norm.

Work stressors were examined using nine factors that covered:

- seven organisational factors - job ambiguity, job boredom, low job control, emotional work-role demands, job insecurity, organisational mistrust, personal responsibility; and
- two physical factors - physical work-role demands and ergonomics.

Social relationships were examined through the three workplace factors of:

- supervisor support;
- co-worker support; and
- staff support,

while the two family factors were:

- partner/spouse support; and
- friend and relative support.

Workplace occupational health and safety practices were examined through the two organisational factors:

- workplace support for OH&S; and
- reward for Type A behaviour.

Two work-environmental factors were examined using:

- the OOS proneness of the workplace; and
- the stress proneness of the workplace.

Individual OH&S practices were examined through the two behavioural factors of:

- stretch-rest; and
- physical self-care.

Strain was examined using:

- the physical factor of fatigue; and
- the two psychological factors of goal loss and occupational stress.

This latter factor was assessed using the Stress Arousal Checklist (SACL) which has been used extensively in Australia.

Outcomes were examined through five factors.

There were two attitude factors of;

- intention to lodge a worker's compensation claim for OOS; and
- intention to lodge a worker's compensation claim for stress,

two factors of physical symptoms:

- OOS index; and
- severe OOS,

and a single psychological factor of 'psychological distress'. This last factor was measured using the Centre for Epidemiological Studies Depression Scale (CES-D) which is widely used in Australia.

Obstacles to OOS treatment and claim were examined through four behavioural factors that were addressed to those participants who indicated that they had symptoms of OOS.

Onset information was examined by the use of three specific factors differentiated by the category of injury. These were:

- OOS onset;
- distress onset; and
- OOS-distress onset (when both symptoms were present).
