

MANUAL HANDLING



CHANGING NURSING CULTURE

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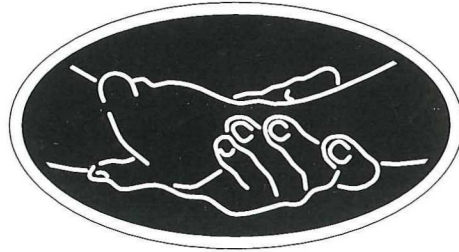
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CHANGING NURSING CULTURE

**A REVIEW OF THE IMPLEMENTATION OF MANUAL HANDLING
REGULATIONS IN SOUTH AUSTRALIAN HEALTH UNITS**

Australian Nursing Federation (SA Branch) 1994

Manual Handling in the patient care area of the Health Industry relates primarily to the movement of human beings. Unlike boxes, human beings can be unpredictable and unco-operative. There are also, frequently, life and death situations, in which the immediate well being of the patient takes priority over the well being of the care givers.

Back pain is unfortunately a common experience for employees in hospitals and nursing homes, and it often goes unreported when there is no time taken off by the employee.

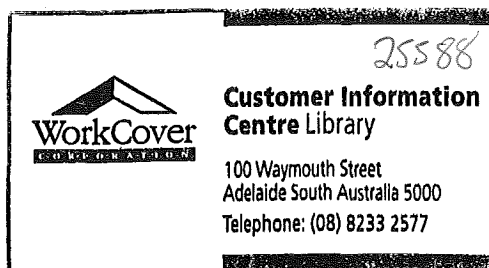
Back pain can occur as a result of a single event eg. lifting a heavy patient, or it can occur as a result of "wear and tear" over time, eg patient care over a number of years.

In the Health Industry, back pain is related not only to lifting patients, but also to work postures adopted in all patient care activities.

Reference:
*Manual Handling in the Health Industry: Patient Care
Identification and Solutions*
Department of Labour, Victoria 1991

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The Australian Nursing Federation (SA Branch) has been very concerned for some time about the number of nurses in South Australia injured as a result of their work. Injuries arising from manual handling activities drew particular attention from the union as this forms by far the largest group of claims made by nurses.

The concern about work related injuries include:

- the number of injuries
- the severity of injuries
- acceptance by nurses that injuries, particularly back injuries are "a part of the job"
- the personal and professional effects of the injury on the individual nurse
- the cost of injuries

It is very apparent that a co-operative approach to the problem by nursing management, nurses involved in client care, and the union, is vital to address these concerns.

Of further concern for the nursing profession was the difficulty of returning nurses to work following an injury. Due to the heavy physical nature of nursing work it is very difficult for nursing managers to provide a safe working environment for nurses recovering from injuries, particularly those affecting the back. For injured nurses meanwhile it is essential they are able to return to the workplace as soon as possible after an injury to avoid the negative physiological effects of injuries, such as isolation and loss of self esteem, which often results from long absences from employment.

These needs culminated in a successful submission to the WorkCover Corporation Education and Grants Committee, prepared as part of the ANF (SA Branch) Occupational Health and Safety Programme, for funding of a 2 year project to aid resolution of the problem. The Committee recognised the importance of the project and provided funding.

The "Health Industry Back Pain Prevention Package" (Bates, 1990) was identified as a suitable tool for meeting the needs of the project while effort was also made to incorporate the issues identified by South Australian nurses. These included raising awareness of hazards likely to contribute to manual handling injuries and providing forums in which nurses could contribute to the development of solutions.

Requirements of Manual Handling Regulations and Code Of Practice

In parallel with the identified urgent need for reducing the number and severity of Manual Handling injuries suffered by nurses, new legislative requirements in the form of the Manual Handling Regulations and Code of Practice came into operation in South Australia on the 1st of January 1991. Introducing this legislation into the health sector was anticipated to be a complex challenge depending on the different types and size of Health Care Units.

Concern regarding the introduction of the legislation was confirmed by statistics developed in a project undertaken in 1990 by the Victorian Department of Labour. The study demonstrated that 80% of Health Care Units had not implemented the Victorian Manual Handling Regulations and Code of Practice, which had been introduced in 1988.

The ANF (SA Branch) believed that a more pro-active approach to implementation of the legislation would improve this situation in South Australia, keeping in mind the aim of reducing manual handling related injuries in nursing.

The major requirement of the Regulations is to provide a safe working environment whereby employers in consultation with Health and Safety Representatives and employees, identify and assess any potential risks associated with Manual Handling.

This process must also involve the development and introduction of control mechanisms to alleviate the identified hazards.

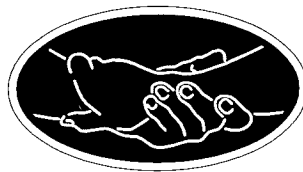
Since the "Health Industry Back Pain Prevention Package" followed the process of Risk Identification, Assessment and Control, it was seen as applicable in assisting Health Care Units to introduce the Regulations and Code of Practice within their nursing departments.

Consequently, this project used both the Regulations and the Back Pain Prevention Package to develop a model for Manual Handling in Nursing, addressing both prevention and injury management for South Australian nurses.

This publication draws on the annual reports from the three year project and aims to provide a resource document on Manual Handling in Nursing.

MANUAL HANDLING IS DEFINED BY THE REGULATIONS AS ANY ACTIVITY REQUIRING THE USE OF FORCE EXERTED BY A PERSON TO LIFT, PUSH, PULL, CARRY OR OTHERWISE MOVE, HOLD OR RESTRAIN ANY PERSON, ANIMAL OR THING.

** Occupational Health, Safety and Welfare Act 1986 (SA) Regulations and Approved Code of Practice Manual Handling*



'HANDLING OF PEOPLE' MEANS ANY ACTIVITY REQUIRING THE USE OF FORCE BY A PERSON TO:

LIFT, OR

LOWER, OR

PUSH, OR

PULL, OR

SUPPORT, OR

CARRY, OR

MOVE, OR

HOLD, OR

RESTRAIN ANOTHER PERSON.

** Workplace Health and Safety Act 1989 Code of Practice Manual Handling of People Division of Workplace Health and Safety Department of Employment Vocational Education Training and Industrial relations, Queensland*

We have seen for years that training workers in 'safe' lifting techniques has not reduced the rate of Manual Handling injury (Caruso, 1986, pp 100). Hospitals and health units have traditionally addressed the issue of Manual Handling and pursued reductions in back injuries by concentration on instruction in correct lifting techniques and backcare. This concentration continues despite research (Collins, 1990) which indicates that the basic components of a comprehensive approach should include:

- 1 Problem identification through accident investigation, analysis of injury reports and compensation claims, consultation and other input from staff.
- 2 Job/task analysis.
- 3 Job redesign so as to eliminate poor work postures and fatiguing movement and to allow workers variation in posture, movement and activity.
- 4 Training and education programs which should cover NOT JUST LIFTING SKILLS AND BACK CARE but also the skills required to identify and control risk factors.
- 5 Post injury management, an important complement to primary prevention programs which have been specifically designed to promote safe return to work through use of rehabilitation services, phased return to work, job assessment and modification.

It is very apparent different approaches to training are needed to address different manual handling problems. The broader factors involved in manual handling, apart from lifting techniques, have largely been ignored when considering the problems of nursing work.

The risk factors Stubbs (1987) and McGovern (1985) found nurses face in addition to the technical performance of the actual lift include:

- static work postures
- high physical demand in terms of weights handled
- size of load

- frequency of lifting
- tasks with primarily bent-over work postures
- unexpected high physical workloads.

Stubbs (1984) found that nurses spend a mean of 1.6 hours of a 8.5 hour shift in stooped postures. Haynes and McDermott (1982) report a DAILY AVERAGE WEIGHT LIFTED BY A SINGLE NURSE as 1523 Kg.

Lifting lectures alone are clearly insufficient to address the manual handling problems of nursing and it is even rare for lifting lectures to be conducted in an actual ward area with the surrounding hazards of furniture and medical equipment. The following example illustrates that it does not require a lifting task for a nurse to place her or himself at risk. This story by Collins (1990) of 'The task of taking a patient's observations' illustrates the poor ergonomic environments for nursing practice.

"To take a patient's observations, you would arrive at the bedside pulling the sphygmomanometer (sphygmo) along behind you with one hand, you would have an electronic thermometer in the other, and a stethoscope hanging off some part of your body. The bedside will be cluttered with patient locker, tray table, portable TV, armchair, visitors' chairs, slippers and flower arrangements. As you have both hands full, its not practicable to clear some working space around the bed before getting on with the observations.

There is no designated storage for these items and anything you move out of the way will have to be put back in its place to ensure the patient's comfort. The bed will not be adjusted to the suitable working height because you're only going to be a few minutes, you'd have to put it down again so the patient feels more secure, and besides, the popular belief around the ward is that half of the winding mechanisms don't work anyway because the beds are getting old and its impossible to get maintenance to come and fix them. On top of that, no one has ever explained to you how to determine an appropriate working height. As well, you've got another half a dozen sets of observations to take, half your patients haven't bathed yet and the Charge Nurse is in the background worrying about getting all the staff to

morning tea. So, you squeeze yourself in amongst everything, you bend toward the patient to tell them what you are about to do - you bend because all nurses bend to talk to their patients to create a more caring relationship. You might sustain that posture for a few minutes while you chat to the patient, probably unaware of the damage you are doing to your back. Then you lean over to place the thermometer in the patient's mouth. While your waiting for that, you lean over to reach the patient's wrist to take their pulse. You haven't really positioned yourself so that you can reach their wrist without bending because there are too many things in the way. Pulse taken, you twist around to record it on the chart. You use the patients tray table as a desk which is too low for this task. Still bent, you twist back to remove the thermometer from the patients mouth, twist back to record the temperature on the chart then while you are still bent over, you twist around again to get the cuff off the sphygmo which is somewhere on the patient's arm, raise yourself up to pump the cuff up, then you bend again to put the stethoscope on the patient's arm because the tube of the stethoscope is too short to reach otherwise. While you are down there, bent over, you twist around again, even just slightly to reach the finely calibrated meter of the sphygmo. Then you twist again to record BP and perhaps one more bend to give a comforting word to the patient before you move onto the next set of observations and the next set of damaging postures. This routine will be repeated several times a day by nurses over the course of their nursing careers. And this is just one example of the stress and strain which individual nursing tasks place on nurses' backs". (Pg 7)

Non reporting of back pain and injury is another occupational peculiarity associated with nursing. In a study on the magnitude of Lower Back problems in nursing, Bernice D Owen (1989) highlights non reporting of injury. Nurses are encouraged to deny their experience of back pain. Nurses generally display a very real fear for the consequence of reporting back pain, not just for their future employment prospects, but also for the often negative reaction from peers, medical officers and managers.

"The Problem of LBP (Lower Back Pain) in nursing is greater than the literature indicates. Over 1/3 of the nurses studies had episodes of back pain related to work, yet only 13% of these nurses had reported the episode, and of the 519 LBP experienced, only 16.5% of them had been reported. Non reporting of injury greatly impacts on statistical data outlining the prevalence of injuries resulting from manual handling in the nursing industry. This highlights the importance of an effective and non threatening approach to nurses who have injured themselves, as hazard identification and solutions rely on this data". (Owen, 1989)

Australian research (WorkSafe 1995, Pg iii) reveals that nurses follow a widespread trend by women not to report occupational injury and place compensation claims. But while women claimed less compensation, they exceeded men in time lost for each injury, highlighting the false saving in delayed compensation claims. In an article publicising the report (Meikle 1995) the acting Secretary of the NSW Nurses Association, Ms Melville said "decreasing funds coupled with an increase in patient numbers led to the high levels of injury. More lifting is required with patients less able to assist themselves." According to Ms Meville, the statistics were more frightening because numbers may be greater than the study recorded as many nurses did not report injuries or claim compensation. "Quite a number of them carry on without workers compensation because nurses are - I hate to use the work dedicated - but they certainly want to give as much as they can to the patient", she said. Ms Melville went on to say that "conditions were not likely to improve although lifting equipment for nursing staff would help." (Pg 5)

This solution to reduce manual handling injuries is supported by Lacombe (1993) who suggests nurses need to adopt a no lifting policy.

"The training that nurses need is not in lifting but in how to avoid lifting and in the use of the relevant equipment such as turning aids, hoists and transfer equipment. Patients and nurses deserve the best equipment but nurses need to know what is available and demand it.

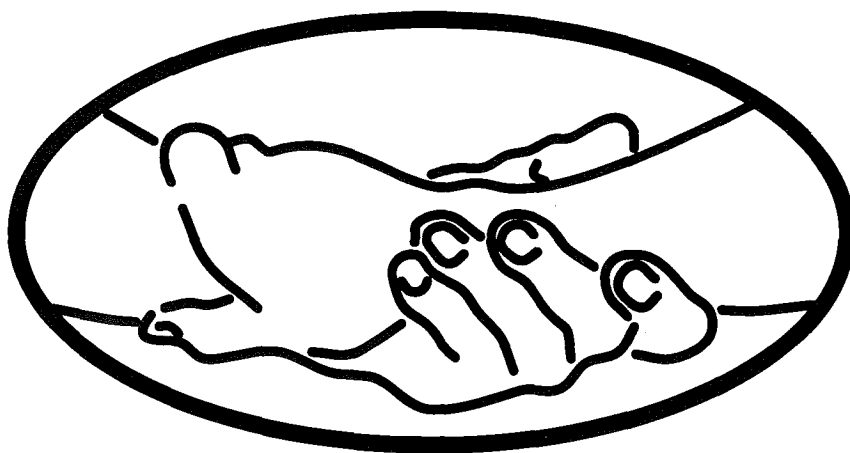
Lacombe's suggestion would make a useful undergraduate unit for nurses. Likewise there is a crying need for specific manual handling training for nursing in the aged care and community based services. The frequently used excuse of patient objections to the use of lifting and handling equipment can also be overcome with education for staff and patients. Knibbe (1992) outlines how the provision of suitable and accessible equipment and an education programme, improved injury rates and made the use of lifting devices the first choice for patients and staff in a range of nursing homes. It will entail a frustratingly slow change in nursing culture for nurses to demand information and equipment to address the OH & S hazards of their industry.

Old habits die hard; nurses like the hands on approach and we are sustained by an image of self sacrifice that makes it hard for us to stop lifting manually. This is an amateur ideology yet paradoxically it is prevalent in an occupation so desperate to claim professional status.

The individual nurse can have only a limited impact on the situation. A change in attitude on a grand scale is required; we must value ourselves and have the vision of being able to practise in a properly resourced and well equipped environment.

Even if we continue with our self sacrifice there is the question as to whether it is right to expect the next generation of nurses to do so. (Lacombe 1993)

The ANF saw a role for the union in developing a model which does not confine the definition of and training in manual handling just to lifting techniques and which supported nurses to achieve Lacombe's change of attitude. Rather than concentrating on nurses only gaining the technical skills of lifting, the union investigated with members a structure which supports nurses taking more control of the risk factors in their work - enabling them to change the policies, work practices, design of workplace and equipment which have an impact on their safety. The nursing industry is a predominantly female workforce, incurring a manual handling injury rate worse than the construction industry. The union considered that it was essential to particularly address the lack of action on OH & S for women workers and to encourage women in other industries to do the same. We also wished to strongly promote to members their value as workers in the health sector, and to improve the performance in prevention programmes for all nurses. For ANF (SA Branch) the first stage in nurses making this change was the implementation of OH & S legislation in SA Health Units.



The SA Government Occupational Health Safety and Welfare Act (OHS & W Act) 1986 was introduced under a Labour Government, at the same time as the Workers Rehabilitation and Compensation Act 1986. The two pieces of legislation were seen to be complimentary - with the focus on prevention of injury and the creation of safe working conditions through consultation on work practice and consideration of the environment of the work.

The primary responsibility outlined in the Act is contained in Section 19 which states:

“an employer shall..... ensure as far as reasonably practicable, that an employee is, while at work, safe from injury and risk to health”

In achieving this task, focus is given to consultation with staff, to ascertain hazards arising in the work and to work together to resolve issues raised. To facilitate this, emphasis is placed on the role of the Health & Safety Representative (HSR). Section 33.1. of the OHS & Welfare Act 1986 gives the following explanation of the role of the HSR:

“A HSR who as an elected representative from a workgroup, may for the purpose of the health and safety of the employees in the work group:

- (a) Inspect the whole or any part of any relevant workplace:
- (i) at any time after giving reasonable notice to the employer (which must state the name of any consultant who is to accompany the representative during the inspection and the purpose for which the consultant's advice is sought); or
- (ii) immediately, in the event of an accident, dangerous occurrence or imminent danger or risk to the health or safety of any person;
- (b) accompany an inspector during an inspection of any relevant workplace;
- (c) investigate complaints relating to occupational health, safety or welfare made by employees in the work group;

- (d) at the request of the employee, be present any interview concerning occupational health, safety or welfare between an inspector and an employee;
- (e) at the request of the employee, be present any interview concerning occupational health safety or welfare between the employee (or a representative of the employer) and an employee;
- (f) make representations to the employer on any matter that related to occupational health, safety or welfare at any relevant workplace.”

Organisations are also advised to form OH & S Committees. Their role as described in the OHS & W Act 1986 is contained in Section 33.1.:

“The functions of a health and safety committee are:

- (a) to facilitate co-operation between an employer and the employees of the employer in initiating, developing, carrying out and monitoring measures designed to ensure the health, safety and welfare at work of the employees; and
- (b) to assist in the resolution of issues relating to occupational health, safety or welfare that arise at any relevant workplace; and
- (c) to assist in the formulation, review and dissemination (in such languages as are appropriate) to employees of the occupational health, safety and welfare practices, procedures and policies that are to be followed at any relevant workplace; and
- (d) to consult with the employees on any proposed changes to occupational health, safety or welfare practices, procedures and policies; and
- (e) to keep under review:
 - (i) developments in the field of rehabilitation of employees who suffer work-related injuries; and
 - (ii) the employment of employees who suffer from any form of disability; and

- (f) to assist
- (i) in the return to work of employees who have suffered work-related injuries, and
- (ii) in the employment of employees who suffer from any form of disability; and
- (g) such other functions as are prescribed or agreed upon by the employer and the health and safety committee."

Occupational Health and Safety in South Australian Health Units

The implementation of the OHS & W Act 1986 was slow in the majority of the SA Health Units. The SAHC issued advice in 1987 to Public Sector Health Units to encourage units to form work groups and establish a HSR's system. The ANF was closely involved in the negotiations during this period, and agreed to act as returning officer, under the legislation, for nursing HSR elections in the public sector. [It has since taken on the role extensively for both public and private health units]. Like the Public Sector, the Private Sector implementation has also been inconsistent, although generally better, with an initial preference for establishing OH & S Committees rather than a network of HSR's. Implementation is slowly improving in both the public and private sector.

The OHS & W Act also contained a number of regulations [specific activity or hazard legislation], and codes of practice [minimum guide-lines]. The first to impact on health units were the Industrial and Commercial Premises Regulations. The application of these regulations in the health sector was confused with the Industrial Premises Regulations applying to areas such as Theatres while other areas such as work stations in health units were covered by the Commercial Premise Regulations.

The Department for Industrial Affairs (previously the Department of Labour) is responsible under the Act for enforcement of the Act and Regulations. Inspections of health units were rare and since the proclamation of the OHS & W Act, few defaults have been upheld in SA hospitals, community units and aged care facilities. [There is no centralised data collection of defaults placed by industry.]

The Occupational Health Model and the South Australian Manual Handling Regulation

In 1992 the Manual Handling Regulation and Code of Practice was introduced. The regulation followed the contemporary Occupational Health and Safety Model which uses a three stage approach:



The model also emphasises consultation, environment/design issues and training.

The regulations apply to all workplaces in SA and in doing so are, by necessity, generic in nature. The feedback from health units attempting to interpret the legislation was that the regulations and code of practice reflected a manufacturing bias, with an emphasis on the manual handling of objects rather than people. The application of the Code of Practice to the manual handling of people lent a completely new dimension to the definitions of "Characteristics of the Load" [Manual Handling Code of Practice (1992) Checklist]

A number of Australian states have recognised this difficulty and introduced accompanying publications or a separate Code of Practice to deal with the specific requirements of the Manual Handling of People. The Queensland Division of Health and Safety introduced **Code of Practice Manual Handling, The Handling of People** in 1992, following a period of public consultation.

Victoria has produced a series of industry specific pamphlets on the application of its Manual Handling Regulations with the **Manual Handling in the Health Industry** (1991) detailing specific requirements for the health sector. Western Australia has produced **Strategies to Reduce Risk of Back Strain in Nursing Homes** (1989).

SA has taken the approach of producing a number of supplementary publications to the regulations, aimed at specific workers (rather than industry areas). The publication, **Manual Handling Health & Safety Issues for Women Workers** (OH & S Commission, 1992) outlines particular risk factors for women including a discussion on the traditional application of weight limits for women and issues for pregnant women workers.

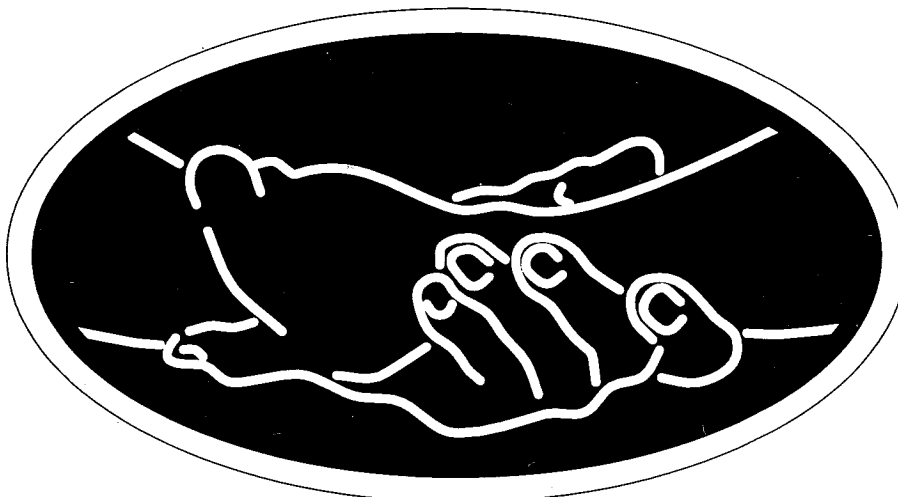
The booklet **Manual Handling and Young Workers** (OH & S Commission, 1992) attempts to address the high rate of injury of workers in their first six months of work and to make the Regulations accessible to a young audience.

SA conducted a survey on the implementation of the Manual Handling Regulations and Code of Practice in 1993. It found that approximately 60% of workplaces in South Australia had taken no action to prevent Manual Handling injuries since the introduction of the regulations (Pg 3). The Manual Handling in Nursing Project research in 1992 found that application of the regulations in health units was poor - very few nurses were aware of the regulations and it was rare for the legislation to be used in lifting training. This matched the 1990 Victorian research which highlighted that 80% of

health units had not implemented the Victorian Code of Practice which was enacted in 1988 (Victorian Department of Labour 1990)

The Manual Handling Regulations will be incorporated in the new publication of **Consolidated Regulations** (which will also supercede the Industrial and Commercial Premises Regulations), which will list all regulations which will apply to every SA workplace. The Brown Liberal Government 1994 amendments to the OHS & W Act created a new OH & S Division within WorkCover in place of the previously separate OH & S Commission. In its new form the division will combine with the resources of the WorkCover Preventions to continue its work on OH & S in SA.

The Manual Handling in Nursing Project presented an example of how the high cost of injury in a particular industry sector provided impetus for research funding from WorkCover to investigate a useful **prevention** model, examining the particular difficulties of applying OH & S legislation in the health sector. The project model, which incorporates both prevention and injury management is described in the following chapter.



The Australian Nursing Federation (SA Branch) Manual Handling in Nursing Project enabled the ANF to conduct research on a OH & S hazard which has caused unacceptably high numbers of injuries to our members. The project compiled our first comprehensive set of statistics on Manual Handling injury and costs; produced a training kit specifically aimed at addressing Manual Handling issues for nurses; and enabled the union to reflect on how nursing practice contributes to our high injury rates. The focus of the project was a holistic one utilising the Occupational Health Model three stage approach and taking the concept to a wide interpretation which established and provided training in the application of a **prevention and injury management approach for nurses**. This focus of addressing issues not only for able bodies nurses, but also for injured nurses attempting to return to nursing, followed the example of the Collins (1990) research.

However, we wanted to go beyond both the Collins project, with its focus on back pain; and the traditional back education/lifting lecture approach; in dealing with manual handling in totality in nursing.

The project started with an examination of the implementation of the OHS & W Act in SA Health Units and the use of elected HSR's in identifying, assessing and assisting to control risks to health and safety. The ANF has been instrumental in ensuring that the network of nursing HSR's continues to improve. Over the period of the project, the union (acting as returning officer for HSR elections, and actively encouraging nurses to be involved) increased the numbers of nursing HSR's from 192 to 413 Reps registered on the union's data base. With nurse HSR's as the basic building block the project examined how health units were addressing Manual Handling. Of particular concern was the implementation of the Manual Handling Regulations and Code of Practice.

As mentioned in the Literature Review, the traditional practice in dealing with the high levels of manual handling related injuries in health units has been to concentrate prevention strategies on only one aspect of manual handling - lifting techniques. The programmes are based on what John Matthews calls "The Careless Worker Syndrome". (Mathews 1985, Pg 2) It is assumed that, if only nurses would consistently "lift properly", manual handling injuries could be reduced. The individual, rather than the work, is identified as the

problem. The programmes often take a health promotion angle, including individual back care to assist the wayward nurse to improve her performance at both work and home. This individualist approach is promoted as holistic, recognising as it does that nurses actually do other activities besides work. Apart from assuming that change can be achieved simply by making available training - a notion that has even been rejected by other health promotion programmes - a major limitation of this approach is the narrowness of the definition of manual handling. Lifting is only one component of manual handling (see: What is Manual Handling?) Even within that constraint the lifting programmes offered are often limited within themselves. Instruction has normally been provided at orientation sessions, sometimes not followed up by further sessions or more frequently with annual updates. As stated in Chapter 3 it is rare for the Legislation, Regulations and Code of Practice to be included in the programme in any comprehensive way. The training is not necessarily specifically applicable to the client area where the nurse will be working. Models used have been co-operative staff members in ideal surroundings; not, for instance, critically ill patients with numerous high technology "attachments"; unconscious patients; elderly people with dementia preventing their co-operation or obese or burns patients.

The attractiveness of a concentration on the mechanics of lifting, or worse, a prescribed set of lifts, is that it's convenient. It allows a tick or cross next to the action - with no variation for change environment, circumstance, or patient! Rather than following the Occupational Health Model of risk assessment and control, it concentrates on a single element of the risk control strategies.

The training developed by the project focuses on giving nurses (not outside consultants or resident physiotherapists) the opportunity and skills to identify and assess the risks involved in each manual handling task (not just lifting patients) and to adjust their response accordingly. The SA Manual Handling Code of Practice checklist is used in the training as a tool for nurses to perform that assessment - while also critiquing the checklist in its application to the manual handling risks in dealing with people rather than objects.

The concentration in the training on skilling nurses to perform this assessment, is accompanied with a recommended model for consultation, and the management of both prevention and rehabilitation. The

establishment of Risk Assessment Teams (RATS) is proposed as a method of ensuring consultation between nurses engaged in patient care and their managers, towards controlling hazards raised through "Hazard Reports". (Appendix 2)

The project training shifts the emphasis away from the traditional question "how is that nurse lifting, and is it being done correctly?" to a strategy based on a series of questions about nursing work including:

- What sort of work is that nurse doing?
- How often is it done?
- What postures are used?
- What impact does the environment have on the work?
- What equipment is required to perform the task to prevent injury?

The training includes the following principles of preventing manual handling injuries:

- 1 Eliminate or reduce the amount of Manual Handling.
- 2 Reduce the amount of bending, forward reaching, and twisting, in all tasks.
- 3 Reduce worker fatigue.
- 4 Keep all equipment in good working order.
- 5 Keep the work place environment safe.
- 6 Ensure that suitable training and education in Manual Handling is provided to all staff.

Rehabilitation Advisory Groups (RAG's) are also proposed, again with all classifications represented, which would address specific rehabilitation issues for the unit or ward.

The principles of an effective rehabilitation programme which the RAG's aimed to achieve are:

- 1 An injury management policy which gave a management commitment to support and rehabilitate staff.
- 2 The development and adherence to an injury management procedure, including early reporting and establishment of a flow chart of people involved and information required.
- 3 Facilitation of quality medical care including first aid and ongoing rehabilitation co-ordination.
- 4 Maintenance of contact with injured worker immediately post injury and throughout rehabilitation.
- 5 Provision of appropriate rehabilitation including opportunities (through consultation with staff) for work based and off site placements and training programme.
- 6 Consideration of the injured workers' financial, psychological and social welfare.

Source: Health Industry Back Pain Prevention Package.

The RAG's groups also had the task of addressing the staffing implications of having an "injured worker" in staff numbers. This includes consideration of the allocation of "light" duties and whether unsafe work practices for injured nurses are any safer for non-injured nurses.

The training programme was developed, trialled and evaluated/adapted in the first year then extensive training throughout the state was provided in the second year. The aim was to establish key trainers in each health unit who with management support could then implement ongoing training for other staff at their workplace. The following chapter outlines the process, objectives and recommendations from the first two years.

The aim of the project, as outlined in the Manual Handling in Nursing Stage One Report, was to:

Develop a training programme and consultative mechanism to assist nurses to reduce the incidence and severity of Manual Handling related injuries.

and

Promote effective rehabilitation of injured nurses.

The ANF Manual Handling in Nursing Project submitted two reports (Pocock 1992 and Pocock 1993) to the WorkCover Research and Education Committee outlining the objectives and achievements of the two stages of the project which ran from 1991 - 1993.

1 PROJECT OBJECTIVES

STAGE ONE

- To trial the development of a training programme to establish teams of nurses (Risk Assessment Teams) skilled in identifying, assessing and controlling manual handling related hazards utilising the Manual Handling Regulations and Code of Practice, both for the short term and in planning the prevention of future risks.
- To trial the development of action groups of middle management nurses (Rehabilitation Action Groups) to improve the management of injury and rehabilitation in nursing.
- To ensure that management structures and procedures facilitate a consultative process between employees and employers on matters related to Manual Handling specifically and Occupational Health and Safety in general.
- To develop suitable models to implement the Manual Handling Regulations and Code of Practice.
- To focus the nursing profession of SA on the current management of manual handling and the need for change using skilled groups of nurses as the catalysts for the change.
- To facilitate more effective rehabilitation of injured nurses.

- To encourage inclusion of the concepts of safe manual handling into the training provided for undergraduate nurses.

STAGE TWO

- To offer Train-the-Trainer sessions across the State which would effectively meet the needs of a broad range of health units in bringing about the required changes.
- To focus the nursing profession of South Australia on the current management of manual handling and the need for change.
- To skill nurses (via the Train the Trainer sessions) to act as catalysts for the change.
- To empower nurses to participate in making effective changes to their own working environments and practices.
- To establish a consultative mechanism between nurses and their managers towards solving manual handling problems. Formal communication channels would be identified to address manual handling hazards and hence other occupational health and safety related problems.
- Nurses graduating from universities would have an understanding of multi-faceted causes of manual handling related injuries and how hazards should be addressed.
- Raised awareness would be facilitated for all levels of staff by consideration of the issues involved in returning injured nurses to work and the development of a greater range of long term options for injured nurses.

2 PROJECT DESCRIPTION

Year one of this project (1991) developed and then trialled a training package across a selection of 5 pilot worksites, which proposed the development of teams of nurses (RAT's: Risk Assessment Teams) skilled in overcoming manual handling hazards. The training also initiated action groups with middle management nurses (RAG's: Rehabilitation Action Groups) which were also trialled to attempt to improve the management of injury and rehabilitation in nursing.

Year two of the project (1992) involved the implementation of RAT's and RAG's via a train-the-trainer approach across the state, providing a framework for health units to review implementation of the Manual Handling Regulations and Code of Practice. Workshops were held in Metropolitan and Country sites with over 170 health units participating (out of around 350 locations in the State) and over 830 nurses and other health staff attending half or full day sessions.

3 MAJOR RECOMMENDATIONS FROM THE MANUAL HANDLING IN NURSING PROJECT

3.1 Prevention through improved design

- 3.1.1 Strategic plans be developed for modifying the physical environment of health units to facilitate safe manual handling.
- 3.1.2 Fixed height beds within health units be replaced with appropriate adjustable beds as a priority.
- 3.1.3 Building standards for handicapped toilets within nursing homes be altered to allow for safe access by staff from both sides.
- 3.1.4 New manual handling equipment be trailed in consultation with nurses (and health and safety representatives) prior to purchase (as per the Manual Handling Regulations and Code of Practice).
- 3.1.5 Suitable chairs/stools be developed and purchased which provide nurses with back support when assisting women to breastfeed.

3.2 Policy and procedures to prevent injury

- 3.2.1 Policies/procedures related to the delivery of infants must clearly encompass the maintenance of midwife safety.
- 3.2.2 That frequency of patient movement be considered when allocating patient care to individual nurses.
- 3.2.3 That written procedures be developed within nursing homes to clearly highlight safety needs of nurses in relation to client care (in conjunction with residents rights and Standards of Care requirements).
- 3.2.4 That health unit uniform/dress policies clearly state clothing must not be restrictive and shoes must be of a non slip nature.
- 3.2.5 That the Queensland Code of Practice for People Movement be adopted by South Australia or be made freely available as a resource for health units.

- 3.2.6 The roles of nurses and ambulance staff be clarified to determine responsibility for transferring client between ambulances and beds and appropriate policies developed.

3.3 Education and training for prevention

- 3.3.1 That a greater emphasis on assessing clients prior to movement be incorporated into "client moving" training to ensure staff are able to adapt movement methods to the clients' changing needs in an informed manner.
- 3.3.2 That standards for training nurses in methods of manual handling be developed to incorporate people moving techniques, assessment, evaluation and the appropriate Regulations.
- 3.3.4 That the "Manutention" technique of people movement be further researched to determine application and outcomes both from the perspectives of employee and client safety.
- 3.3.5 That ANF (SA Branch) pursue the inclusion of Occupational Health and Safety in both undergraduate and post graduate courses.
- 3.3.6 That further Manual Handling training and support be provided to health units in setting up and maintaining Risk Assessment Teams in the future.

3.4 Consultation and participation in prevention

- 3.4.1 That ANF (SA Branch) and managers of all health units actively encourage the nomination of Health and Safety Representatives in all health units and initiate opportunities for networking between Representatives eg via annual training days, newsletter etc.
- 3.4.2 That the concepts incorporated within the project ie the establishment of hazard registers, forums for the issues to be discussed with all levels of staff (with Health and Safety Representative involvement and hazard resolution procedures including a feedback and evaluation loop) be pursued in all health units.

In reviewing the achievements of health units and funding bodies in responding to the above recommendations, this report found that after 12 months action was still ongoing, and for a number of the recommendations, still outstanding. However, reported response to the project as an intensive investigation of the problems was positive, particularly in the capacity to highlight areas needing specific (and often long term) work.

HEALTH SECTOR - NATIONAL STATISTICS

- OH & S performance in hospitals and nursing homes is well below that of Australian industries in general.
- As a whole, it experiences 25 per cent more injuries for every 1,000 employed, than the incidence rate for Australian Industries overall. Nursing homes experience one and a half times the overall rate.
- Nursing has the highest proportion of injuries/disease within the industry, with registered and enrolled nurses making up just over 1/3 of the occurrence.
- Most frequent injury identified as sprains and strains and second is contusions.
- Nearly 40% of injuries affect the back, and of these, 77% affect the lower back.
- Although the cause of injuries covers a relatively wide range more than 1/4 involve other people - mostly patients.
- Where a direct cause of injuries was attributed to indoor environment, wet slippery surfaces were involved in more than 50% of cases, and steps and stairways in 20%. Most injuries happen between 9 - 10 am followed by 11.00 am - midday.
- Social costs of injuries in the industry are apparent from the fact that nearly one-fifth result in more than 60 days lost working time.

(Worksafe, 1994)

The ANF Manual Handling in Nursing Project compiled the first published analysis of Manual Handling claims for nurses in SA.

HEALTH SECTOR: SOUTH AUSTRALIA

Manual Handling Injuries (Nurses) - all claims*
Statistics from Stage 1 and Stage 2 of project

YEAR	TOTAL CLAIMS	TOTAL COST
1988 - 89	938	5,218,756.00
1989 - 90	1,195	4,228,280.00
1990 - 91	1,283	3,798,946.00
1991 - 92	1,296	1,812,009.00

*Includes all claims including "no days lost" claims.

Data source: WorkCover Corporation, SGIC

Stats include: Hospitals, Psychiatric Hospitals, Nursing Homes, Community Health Centre's (excludes exempt employers other than SAHC)

Manual Handling Codes 41 - 44 (WorkCover)

Registered & Enrolled Nurses

Manual Handling in Nursing Stage Two Report 1993 - Appendix 9

Statistics for manual handling injuries were collected from both State Government Insurance Commission (SGIC) who acted as the administrator of claims for the South Australian Health Commission (SAHC), and the

WorkCover Corporation. The SAHC health units (ie publically funded major hospitals, community centres etc) and some private hospitals are "Exempt Employers" under the Workers Compensation & Rehabilitation Act 1986. This exemption entitles these hospitals and the SAHC to manage their own compensation and rehabilitation costs internally rather than paying a levy (on payroll) to the WorkCover Corporation. Until the 30th June 1994 the SAHC used the SGIC as their contracted administrator of all public sector claims. This has meant that SGIC has held public sector statistics and WorkCover has held private sector (non exempt) statistics (private hospitals, nursing homes, hostels etc).

Unfortunately, SGIC provided very little analysis of the claims statistics and certainly there were no published combined SGIC and WorkCover statistics on manual handling prior to the statistics produced in the Stage 2 Project Report.

Statistics are also limited in their ability to reflect the wide range of influences and variations in injury reportage. This project occurred during an economic recession where nurses concerns about keeping their job or their ability to gain another job could feasibly have constrained their willingness to report or instigate a compensation claim. A number of other programmes came into effect over the duration of the project which were to encourage employers to reduce injuries, including the Audits against the Exempt Performance

Standards (for WorkCover Exempt health units) and the Safety Achiever Bonus Scheme. Primary Health programmes have always had difficulty establishing specific causal links between changes in health status and the success (or failure) of particular programmes. The lack of appropriate baseline manual handling injury data has also been exacerbated by the use of different methods of coding injuries and the practice of combining injury statistics of RN's and EN's with those of Ward/Patient Care attendants. These workers are not registered with the SA Nurses Board and receive less training than EN's and RN's. As they do not require registration under the Nurses Act, the ANF does not have coverage of this group of care providers. Their role

in direct care provision however, has meant that, along with EN's, their injury rate is high. The union consequently has no available means of separating statistics where that grouping occurred, for an accurate quantitative analysis.

The statistics for this final evaluation of the project are also biased as the available WorkCover statistics do not list "minor claims" from Exempt Employers (claims which resulted in less than 5 days off work). This masks a considerable number of claims, particularly for back pain, where it is quite common to return to work in less than 5 days, or where a new claim is required for a re-aggravation of an existing injury.

WORKCOVER STATISTICS: SOUTH AUSTRALIA

Statistics from 12 months following project

ENROLLED AND REGISTERED NURSES - TOTAL DAYS LOST CLAIMS

NON-EXEMPT EMPLOYERS

EN's	1991/92	1992/93	RN's	1991/92	1992/93
Female	54	53	Female	58	46
Male	4	1	Male	2	0
Total	58	54	Total	60	46

EXEMPT EMPLOYERS

EN's	1991/92	1992/93	RN's	1991/92	1992/93
Female	162	155	Female	166	165
Male	31	16	Male	18	23
Total	193	171	Total	184	188

TOTAL DAYS LOST CLAIMS

	1991/1992	1992/1993
Enrolled Nurses	251	225
Registered Nurses	244	234
Totals	495	459

NB: Information only for "days lost" claims (greater than or equal to 5 days off work). Unit records are not kept for Exempt Employer "minor claims".

Total 1,321 nurses injured (manual handling) 1/7/91 - 30/6/93 in South Australia

The following table highlights the significant cost attached to manual handling injuries, with high costs recorded for nurses working in the Public Sector SAHC hospitals as an exempt employer, and with non exempt employers of nurses in nursing homes and some private hospitals also recording high costs (given their comparatively lower numbers).

COST OF MANUAL HANDLING INJURIES 1/7/1991 - 30/6/1993

Exempts		
EN Female	1991 - 1992	1,450,728
EN Male		349,388
RN Female		1,484,807
RN Male		70,001
Total Exempts	1991 - 1992	\$3,354,924
EN Female	1992 - 1993	629,667
EN Male		53,686
RN Female		733,659
RN Male		104,637
Total Exempts	1992 - 1993	\$1,521,649
Non-Exempts		
EN Female	1991 - 1992	421,947
EN Male	TDL	109,346
RN Female		852,589
RN Male		73,595
EN Female	1991 - 1992	18,048
EN Male	TNDL	582
RN Female		31,379
RN Male		1,791
Total Non Exempts	1991 - 1992	\$1,509,277
EN Female	1992 - 1993	240,393
EN Male	TDL	11,745
RN Female		445,559
EN Female	1992 - 1993	20,356
EN Male	TNDL	5,903
RN Female		37,085
RN Male		411
Total Non Exempts	1992 - 1993	\$761,452
TOTAL		\$7,147,302

Key: TDL - Total Days Lost; TNDL - Total No Days Lost

Data source: Workcover Corporation

NB: Statistics for 1991/92 and 1992/93 only are provided, as WorkCover changed its coding to the WorkSafe coding system from May 1991. Combined with some policy changes in coding, these changes make comparisons between years misleading, if all years were to be included.

Manual handling injuries in the SA Health Sector cost over \$7 million between 1991 - 1993

EVALUATION OF STAGE 1 AND 2

The methodology used for the evaluation of the first two years of the project incorporated quantitative and qualitative data based on results from questionnaires sent to the 170 health units who participated. In addition responses from randomly selected individual participants (10%) were analysed along with feedback from a forum of participants. The WorkCover Research and Evaluation Unit made the following evaluation of the project:

Evaluation incorporated injury statistics from worksites, outcomes from RATS and RAGS groups and a review of OH & S management system changes in trial worksites.

Questionnaires from RATS members sought views regarding raised awareness, actual behaviour changes, if nurses had reported hazards and whether solutions had been found for identified risks.

Feedback demonstrated that nurses involved had an increased awareness of manual handling hazards faced, had changed their practice as a result and were more ready to take action to address the hazards. As a result of hazard sheets and RATS meetings, nurses had implemented a formalised consultative system for reporting and addressing hazards which legitimized the rights of all nurses to report hazards and increased the likelihood that this would occur.

RATS teams were also found to have assisted with the implementation of the Manual Handling Regulations and Code of Practice in their involvement with appropriate purchases of new equipment, addressing hazards via the hazard register and in reviewing policies and procedures.

From an organisational point of view, nurses were asked whether they believed specific details of the management systems had improved. The project concluded that OH& S management systems which established a hazard resolution process underwent the greatest change with evidence of better reporting of incidents and injuries and their utilisation for problem solving.

The RAT's feedback indicated that teams had addressed a range of issues highlighted by hazard reports or incident reports, which were presented verbally or in writing at meetings. Hazards assessed were largely based on the Manual Handling Code of Practice and many control measures were developed.

Changes were observed to policy and procedure development, documentation of the hazard register form, reporting mechanisms and greater integration of OH & S systems.

The evaluation of stage two of the project involved a qualitative and quantitative evaluation based on questionnaires sent to 31% of the 170 health units who participated in training and 10% of individual participants.

The results from these questionnaires demonstrated that a large number of worksites had commenced the process of risk identification, assessment and control as required by the Manual Handling Regulations and Code of Practice. Despite the short timeframe between the attendance at training sessions and the evaluation of the impact of the project, many changes had been made on the basis of the response from surveys.

Questionnaire responses both from the health unit perspective and from individuals demonstrated awareness of the many issues related to the incidence and severity of manual handling injuries. Rehabilitation of injured staff also improved as a result of the project.

The responses also demonstrated that nurses were now more involved in overcoming manual handling problems and that formal communication channels and consultative processes had been identified for this to occur.

(WorkCover Evaluation 1994)

1994 QUESTIONNAIRE RESULTS

The statistics listed in Chapter 6 and Appendix 1 provide a national perspective on injuries, the highest agency of injury, and a picture of how these statistics compare with other industries.

Given the recognition of the limitations of the statistics listed in Chapter 6 this final report on the project takes a more analytical look at Manual Handling in Nursing, through qualitative rather than quantitative data. We nevertheless reviewed for the 1994 evaluation a small randomly selected group of participating health units injury statistics and requested that they answer a questionnaire which followed the themes of the Stage 1 and Stage 2 evaluation.

Fifteen health units responded to the questionnaire from a distribution of 20 (75% response). While one of the health units stated that it did not provide any manual handling training at all (and was therefore in breach of the regulations) the remaining 14 provided a programme of lifting lectures, predominantly conducted by an in house physiotherapist in lecture/demonstration style with updates annually or six monthly. It was reassuring to note that at least this implementation had occurred, and while recognising the limitations of only "lifting technique" training, all of the health units claimed to have now made staff aware of the OH & S legislation and Manual Handling Regulations. Eight of the 15 health units had implemented Risk Assessment Teams (RAT's) (53%) all of whom were still operational 12 months after the completion of the Project training. All of the RAT's involved elected Health & Safety Representatives.

Of the remaining seven organisations without RAT's, forums such as OH & S Committee's, RN and Nurse Manager meetings were used to address Manual Handling risks and incidents. One health unit provided no formalised response.

Health units used a number of strategies in attempting to identify and assess Manual Handling risks with 13 of the 15 maintaining staff injury records for analysis, plus 12 using workplace audits and 11 utilising the Code checklists.

All of the health units maintained an incident report form and 13 of the 15 had implemented the project "hazards register" to enable the reportage of hazards before they became incidents.

Feedback was provided to staff from reported hazards or incidents, predominantly verbally or through OH & S meeting minutes.

All reported that they had found solutions/methods to reduce Manual Handling risks in consultation with their staff. These included use of trolleys or lifters, lifting guides for patients, greater use and training in lifting equipment and aides (slippery sams, blue straps etc). Storage areas were re-designed and solution brought pre-mixed and in smaller containers. Trolley wheels were replaced, beds made adjustable, appropriate size containers found for linen bags, and furniture and room fittings re-arranged and made easier to move.

Eleven of the 15 health units had developed a Occupational Health Policy during the project and 10 had developed a Rehabilitation Policy. With regard to rehabilitation 10 stated that suitable roles had been found for injured nurses along with a greater awareness by staff of the need for support for injured colleagues.

The training package had been well utilised with 11 of the 15 organisations having used the package for internal training, and 13 of the 15 concluding that a train the trainer approach had worked in their health units.

Nine health units had purchased new manual handling equipment over the past 12 months, all of whom had trialled the equipment with the nurses who would use it prior to purchase.

In assessing how manual handling could be addressed in the future, all of the health units stressed consultation with staff and ongoing training and active promotion and positive feedback of Manual Handling initiatives/practice.

In addition to this specific questionnaire, Manual Handling initiatives were discussed and assessed throughout the 12 month evaluation period with elected OH & S reps in a specialised session as part of the accredited 5 day HSRs training course.

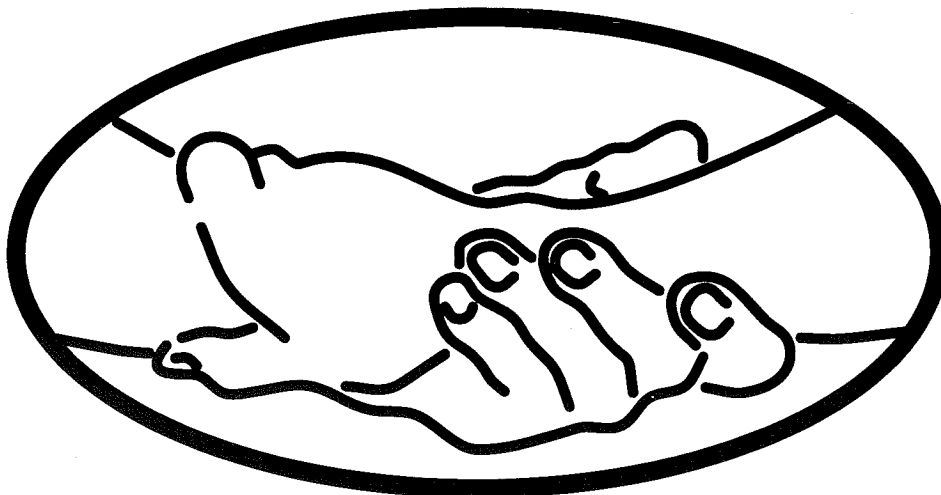
The union also monitored the performance of health units in both the Exempt Employers Performance Standards Audits and the Non-Exempt Employees "Safety Achiever Bonus Scheme Audits (SABS).

Health units, particularly in the Public Sector, have been consistently scoring "0" or "1" in the Audits - a score of "1" representing minimal legislative compliance. While a number of private hospitals and nursing homes achieved Bonus's under SABS many HSR's argued that this was often a paper exercise, complying with policy and record keeping requirements while injuries remained high.

There is, however, a far greater realisation of the costs attached to ignoring prevention programmes. The SAHC has, as of the 1st July 1994, devolved the centralised budget for workers compensation claims. Previously this budget was held by the Risk Management Unit of the SAHC and claims administered by SGIC. The arrangement allowed health units to hand over their claims, rather than monitoring and budgeting for injury

management internally. The self management of claims and rehabilitation by individual health units since July 1994 has resulted in a strengthened role in OH & S for managers and HSR's, employment of internal rehabilitation officers and greater resources for both injury management and prevention. There is an increasing awareness in both the public and the private sector that the cry "we can't afford prevention programmes" is hollow when the health sector is expending such vast amount on injury claims.

The following chapter provides some concluding perspectives on the influences on Health Units compliance with the Manual Handling Regulations and why injury rates amongst nurses continues to be so high.



The ANF manual handling in Nursing Project, enabled the ANF (SA Branch) to not only review the application of OH&S legislation in the variety of health care settings in South Australia, but provided a mechanism by which we could consult with both management and nurses about the problems of achieving that legislative compliance, towards reducing manual handling injury rates.

The project found, from the outset, that the definition of manual handling is commonly interpreted as referring to a narrow range of activities, ie predominantly lifting, and this reluctance to examine the full range of nursing tasks enormously constrains the effectiveness of prevention programmes. In attempting to address this basic misunderstanding, the project examined the implementation of the SA Manual Handling Regulations and Code of Practice, and attempted to assist health units in their application of the Code to health care settings. We used a model developed by Collins (1990) which proposes a consultative structure to examine both prevention and injury management.

Over the two years of the funded research, the project utilised an action research methodology, in developing and trailing a specific nursing education and consultative programme. Nurses across the state of SA were introduced to the model in a train the trainer programme which established Risk Assessment Teams [RATs] and Rehabilitation Advisory Groups [RAGs]. This review of the project, conducted twelve months after the project was completed, is a unique longitudinal analysis of the effectiveness of our intervention over a four year period, and re-examines some of the issues around the continued high rates of injury for nurses from manual handling.

Unlike the legislation in Queensland, where the Collins model was developed, the OH&S legislation in South Australia incorporates a strong role for health and safety representatives[HSRs], with a requirement for employers to consult with these elected representatives on any hazards arising from their work. Health units in SA have also commonly established OH&S Committees, made up of equal numbers of employer and elected employee representatives.

The existence of HSRs and OH&S Committees could feasibly have been seen to duplicate the potential role of a Risk Assessment Team in the application of the

Collins model to SA workplaces. Nevertheless, regardless of the potential overlap, nurses and management supported the experiment to establish RATs and RAGs to specifically address the prevention and injury management issues for nursing staff, given their high rate of injury.

Twelve months after the completion of the project, 53% of the surveyed health units had retained the RATs structure, with feedback indicating a specific, cross-classification nursing group had proved successful as a trouble shooting/problem solving forum for nurses and management. However, it still appeared that, even with this additional consultative structure, a full analysis of how the manual handling tasks of nurses could be reduced had not been undertaken, and that nurses lifting technique was still the primary focus of OH&S prevention orientated training programmes.

The scenario for rehabilitation of injured nurses, the second component of the model, has changed markedly over the period of the project. Since the project's completion, the South Australian Health Commission has handed back to public sector health units, responsibility for management of both compensation claims and rehabilitation, necessitating a re-examination of injury management and consequent allocation of resources and development of policy and procedures. The Workcover Corporation, as the sole insurer for workers compensation claims, has implemented a more comprehensive audit process on performance, which in the Public Sector with the Exempt Employer Performance Standards, and in the private sector, with the Safety Achiever Bonus Scheme, audits employers performance in claims management, rehabilitation and prevention. The reallocation of resources entailed the employment of specialist rehabilitation staff, which appears to have taken the place of a consultative group of staff to advise on rehabilitation issues. No RAGs remained in operation twelve months after the project, however health units reported significant achievements in rehabilitation.

This review of the ANF Manual Handling in Nursing Project brings together four intersecting sets of issues; in the interaction between OH&S issues for nurses, industrial factors, the components of injury management, and implications of the profession and culture of nursing.

The project supported the finding that the OH&S performance of health units was well behind that of other industries [Worksafe 1994, 1995]. In examining manual handling programmes specifically, we continued to see a concentration on training [provided by non-nurses] on the mechanics of lifting and back care, rather than the comprehensive analysis [conducted by nurses] of the work and environment. Ensuring an annual lifting training update, providing a back care programme or a back brace, has proved easier to implement than challenging nursing work practices; investigating/trailing new equipment available in sufficient numbers and design to enable regular use; and considering the OH&S implications of the environment in health care. And yet, it is this end of the Risk Control Hierarchy that is emphasised in the legislation, rather than the lower order priorities of provision of training and protective equipment. Criminally, we continue to observe new health care facilities developed which repeat design and workplace layout problems, and consequently continue to place nurses at risk. While some advances have been made in this area, it is still rare to see nurses take a strong role in workplace design, with the accompanying capacity to influence engineering and budget decisions.

The particular problems of the manual handling of people will always be present, but those parts of the nursing environment which are controllable, are still not adequately addressed. Nurses constantly work in environments where beds are non-adjustable, [or as Collins notes, not adjusted as no-one knows the 'correct working height'], where inappropriate furniture hinders movement, and aides and equipment of appropriate design are lacking. Even where lifting lectures for nursing staff accommodate the use of aides and equipment, no corresponding education is provided for patients and clients, who continue to expect hands-on, manual lifts. Often this preference is simply because of lack of experience and expertise, in an environment which does not allow the time to work with clients to overcome any fears or problems with design. The need for education for nurses working with clients in the community is particularly acute, as employers, members of the public and nurses attempt to come to terms with the necessity to provide a 'safe working environment' in a client's own home.

As illustrated in the literature review, non-reporting particularly of back pain by nurses, prevents a full appreciation of the extent of the problem of manual

handling injury. Cumulative injury from stresses caused over time has been especially difficult for nurses, where no specific incident causes pain, but the performance of their work becomes increasingly difficult. Incident report forms, by their nature, demand a specific time and agency of injury, and health units need to accommodate reportage of cumulative injury in the future composition of their forms.

The manner in which injuries have been coded has also caused problems in compiling a reliable picture of nursing injuries. A consistent manner of collecting statistics may be improved with the implementation of the WISE programme in the SAHC [from 1 July, 1994], which prior to this time has provided very limited statistical analysis for an industry wide examination of injury rates and their causes. A combined statistical analysis from both Exempt and non-Exempt employers should now be possible with a consistent data base.

In discussing the issue of non-reportage with HSRs, they commonly state that nurses do not feel safe to report, and do not feel supported by colleagues - who may have been forced to endure back pain for years with no recognition. It is felt that there has traditionally been little patience with the OH&S requirements of health workers in an environment of caring for the sick, with high costs and limited time, where the expectation from other medical staff to 'carry on or get out' is strong. The environment and work processes in health are seen to be unchangeable, so the feeling is "why waste valuable time on incident reports when nothing changes as a result?". OH&S Committees often grapple with the same problems repeatedly because there is an unwillingness to actually change nursing practice, rather than fiddling around on the edges of trying to improve nurses lifting style. Some of the most successful outcomes from the RATs work were implementing actual work change, ie spreading showering and bathing at both ends of the day in a nursing home, rather than completely exhausting the early shift by bathing everyone before 8am. Traditional work practices which place nurses at risk still remain to be addressed, with no viable reason for inaction. Some health units still even retain the straight line nursing uniform, which has been demonstrated to restrict hip movement by up to 30% in performing a lift with bent knees.

A further complication has been the confusion between the duty of care a nurse has towards the patient, which has been seen to over-ride the legislative requirement of the employer to maintain a duty of care in the provision of a safe work environment for the nurse. This of course, is not the case - the Nurses Act and the Occupational Health, Safety and Welfare Act should operate in unison, in providing quality care for the patient, in a safe working environment for the nurse.

Nurses stereotyped position in the health hierarchy has also stifled their willingness to put their own needs forward, in the face of a patriarchal model of power, where the nurse has been considered to be the doctor's/surgeon's handmaiden, and an angel of mercy to the patient.

Nightingale and her immediate disciples left nursing with the indelible stamp of their own class biases. Training emphasized character, not skills. The finished product, the Nightingale nurse, was simply the ideal Lady, transplanted from home to the hospital, and absolved of reproductive responsibilities. To the doctor, she brought the wifely virtue of absolute obedience. To the patient, she brought the selfless devotion of a mother. To the lower level hospital employees, she brought the firm but kindly discipline of a household manager accustomed to dealing with servants. (Ehrenreich 1973, Pg 54)

In addition to this stereotyped view of the role and value of nurses, there is the gendered view of the value of women's work, as 97% of the industry is female, and their lack of reportage of injury reflects the industry wide position of women. Women predominantly work in service industries where industrial strength is not exercised, are often under-unionised, and work in marginal positions in the workforce as part-time and casual workers. [59% of employed women in SA work full time - 41% work part time or on a casual basis (Kempnich, 1993 pg 17)]. Reportage of injury is seen to place them at risk of losing their jobs, or being discriminated against in allocation of work or promotions. Part-time and casual workers often absorb injuries such as back pain by recovering in their days off work.

Women are commonly the lesser paid partner in two income families, whose income is seen as "additional" to the "main income earner" - but without which the household could not survive!. Paid work is a second job to the childcare and household duties of the approx. 30% of employed women who have children under 12

years (Kempnich 1993 pg 17), - and given that children are now tending to stay at home longer, the number of parents carrying this double workload and financial cost could be expected to be higher. Women do not want to place their income at risk by the reportage and claim for an injury, and their attitude is reinforced by a societal position which discourages women from valuing their labour, whether it is in the paid workforce or in the home.

As a union, the Australian Nursing Federation has worked hard to improve the wages and conditions of both our female and male members. Elected worksite representatives of the union often raise industrial issues with union officials which have an OH&S implication. The prime example of this is the impact of declining staffing numbers, which is seen to increase the intensity of the work and consequently the likelihood of manual handling injuries. This is combined with cuts to the health budget and a health funding model of averaging the cost of procedures and funding that procedure accordingly eg Case Mix. In attempting to reduce the costs the health system, recovery time in the hospital is minimised. As stated by the acting general secretary of the NSW Nurses Association, (Quoted in Meikle 1995 pg 5) "Increasing the throughput of patients and decreasing the bed days mean patients are sicker [during their short few days in hospital]. More lifting is required with patients less able to assist themselves."

Early discharge also places additional pressure on nurses working in the community, who are now also providing more intensive care in the home.

Mistakenly, it is often the funding allocations to proactive prevention programmes which are the first to feel the cuts to budgets, both generally in health and particularly for OH&S programmes. While budget allocations for OH&S decline, the costs of workers compensation claims continue to rise, and nurses are forced to wonder at the logic of the common health administrator/ proprietor's cry that the funding bucket "can't afford" a particular prevention programme/equipment purchase, when the dollars are pouring out the workers compensation hole.

Instead, in an effort to constrain workers compensation expenditure, there is an increased propensity to place greater responsibility for their own health on the individual worker. Consequently we have seen the growth of back care programmes, and increased pressure on nurses to maintain a level of fitness.

Obviously, individual back care and general levels of fitness are important for any worker, but should not take the place of the responsibility of the employer to maintain a safe working environment. Rather than spending on such promotion programmes, money could be more validly spent on improving the work environment and purchasing equipment.

The orientation of matching the person to the job, rather than the job to the person, will move the nursing industry into the dangerous area of discrimination, where a person's physical abilities are required to match a pre-determined set of characteristics. We could then see an increased inclination by employers to restrict entry and encourage "older" [post 40?!] nurses out of the nursing workforce. The ANF is already frequently approached by members who consider they have been discriminated against in a job application because they have informed their employer that they have an existing injury. Pre-employment medicals often request this information, and the union advises members with existing injuries/disabilities to supply any clearances from their medical practitioners and to enquire exactly how the employer views that their injury would prevent them from performing the work.

Perhaps the nursing industry would prefer the development of a "nurse amazon", who instead of a missing breast, could have a slim, fit, muscular body, be in the prime age of 20 to 35 years, with perhaps some of the old Florence favourites of a caring, subservient and diligent personality thrown in, with some modernism's such as awareness of duty of care and an ability to look good in a corporate uniform.

Rather than addressing the problems nurses experience in ensuring their own health and safety through the methods proposed in the Manual Handling in Nursing Project such as consultation, education and training; the union has observed an increased tendency to use staff appraisals and disciplinary procedures to 'punish' nurses, especially for not lifting properly. Instead of engaging with the hazard of catching falling patients or lifting patients from the ground on a case by case basis, as proposed by the Manual Handling Code of Practice, there is again a preference to enforce a standard rule - and to discipline the nurse who may try some other risk control strategy. Again it is important to include OH&S in staff appraisals and to maintain policies to guide behaviour, but not at the detriment of allowing an experienced nurse to consider alternatives.

The nursing industry profile is changing, as greater numbers of women remain in the industry for longer periods of time and take shorter breaks for childbirth, and more men enter the industry. The nursing workforce is ageing, along with many other industries, and it must recognise that it is not the genteel occupation of its stereotype, but a strenuous, manual job.

Nurses are slowly becoming more industrially active, as they realise the necessity to engage in the political decisions of governments and individual employers over the priorities in budget allocations. The nursing industry does not often choose to access the traditional source of industrial strength by the withdrawal of labour when nothing is done in response to OH&S issues. However, the industry is increasingly becoming aware of the ability of nursing HSRs to place 'default notices' against employers, and the option of taking alternative industrial action if necessary, to maintain a high standard of care through the maintenance of a safe and healthy nursing workforce. The network of HSRs and ANF Worksite Representatives have started to work together to address OH&S problems, and industrial issues where there are OH&S implications.

The two groups of workers have also started to take a stronger role in assisting injured colleagues to achieve a return to work. In this way, it is hoped that nurses can retain some of the aims of the RAGs, in the involvement of co-workers in creative rehabilitation programmes. Collins found in his research that most workers who are injured at work, return to work following first aid and medical treatment. Fifteen percent require assistance with rehabilitation, of whom 4% are unable to return to their pre-injury jobs, but more significantly, 2% of whom account for 80% of compensation costs. The statistics for nurses in SA reinforce both those conclusions and the principle that early acceptance and intervention in implementing a rehabilitation programme following an injury, markedly reduces the possibility of a long term claim.

The project found that the previous [pre July 1, 1994] system of injury management in the SAHC, where claims were administered by SGIC, resulted in some health units completely ignoring the needs of their injured employees. Nurses reported to the union that, after years of loyal work for their employer, at the onset of a manual handling injury which necessitated time off work, they were made to feel like a pest in the industry, and were suddenly cut off from all communication. Determination of claims were often unnecessarily

delayed while further medical evidence was sought, while the nurse was left in limbo, using leave entitlements to ensure their financial survival; and left completely in the dark as to the process of acceptance or rejection of the claim. The union office itself continues to devote considerable time in our phone advisory service, to answering basic information queries from members, in the absence of information from their employer. The ANF presently services 407 open workers compensation claims (Nov. 1994) from nurses, and considers our contact to be only the tip of the iceberg, as invariably nurses only contact the union where there is a significant problem with their claim.

While significant problems still occur in claims administration, it is on rehabilitation that the project concentrated its consultation with nurses. Members reported that where the injury was straightforward and a return could be made to the nurse's substantive position, rehabilitation could proceed fairly smoothly. However, even in that circumstance, and certainly where the injury necessitated lifting restrictions and/or the placement in an alternative position, nurses reported resentment from managers and colleagues, especially where they were still counted in staffing numbers for their ward area. This was seen to mean extra work for the remaining staff, and became particularly acute when more than one worker was injured in a particular work area. The allocation of rehabilitating nurses to a ward or work area is complicated by the necessity to maintain an adequate skill mix in the staffing composition to ensure quality care, while also meeting the restrictions of the injured nurse with useful and satisfying tasks. Unfortunately, often an injured nurse is still counted in the staffing headcount without consideration of her/his level of productivity, and consequently without the back up casual staff.

The union and our member worksite representatives, also frequently counsel injured nurses regarding the limitations of the workers compensation scheme in replacing what was previously satisfying, challenging and highly skilled work; following an injury where nursing is only possible with lifting restrictions or no longer possible at all. Having made nursing their career and completing hospital training and/or university degrees and having gained years of experience, injured nurses have difficulty accepting the often blanket or casual advice to "give up nursing", especially when invariably no viable alternatives are offered.

Even when a return to nursing work is possible, the injured nurse is confronted with exactly the same work practices, and is understandably nervous of re-injury or

exacerbation. Many older nurses recognise that unless they leave the industry, they face serious damage to their backs. Consequently the industry will lose experienced and highly trained nurses, doubling the cost to the industry in addition to the cost of workers compensation payments. The need for a re-examination of nursing tasks, which removes the stigma of 'light duties' but considers the OH&S implications of the work for all nurses, is urgent. The industry cannot afford to continue the present injury rate, and is increasing unable to absorb the strain that rehabilitation now places on a system which refuses to change its work practice to be safe for injured and uninjured nurses alike. Other industries have changed to incorporate the use of technology and aides to reduce manual handling tasks, and nursing must do the same. As Larcombe (1993) states, it is unnecessary for nursing to be defined by traditional notions of work practice and manual lifts. The provision of personal, high quality health care does not need to perpetuate the present high manual handling hazards for nurses, and consultation needs to be ongoing regarding how nursing work can be achieved in new, and safe ways.

The Australian Nursing Federation (SA Branch) has continued our work in educating our members regarding the issues raised in the ANF Manual Handling in Nursing Project. Since the completion of the research, the union has hosted a Manual Handling of People Expo, which featured the major SA suppliers of manual handling equipment and aides, in order to increase the knowledge of members about availability and options, and to provide a forum for suppliers to discuss with users any design problems with the utilisation of equipment and aides. The union also continues to expand the network of nursing HSRs, and provides specialised training for both HSRs and Worksite ANF Representatives. The ANF Federal Office is working on the development of national OH&S curriculum, for incorporation into undergraduate degrees and compulsory nurse education programmes, and also supports a national network of OH&S union officials. The SA branch has also supported a specialised OH&S programme for Aged Care, and worked on a training development proposal for OH&S training for community based health care workers, through the Health and Community Services ITAB.

Our aim, as the primary industry union for nurses, is to continue to educate our members about the issues impacting on their occupational health and safety, and to assist them to take the necessary action to ensure they achieve a nursing culture which is safe from injury.

A P P E N D I X 1

COST OF CLAIMS BY AGENCY

A breakdown of the cost of claims by agency reveals that injuries caused by "another person" is by far the highest cause of claims expenditure. This is followed by injuries from hospital beds as the second greatest cause

of injury. This reflects the high rates of injury to nurses from lifting patients, or catching falling patients and from trying to adjust/manouvre hospital beds.

NURSING - EXEMPT EMPLOYERS Cost of claims by agency 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Other Person	207	32	2,070,833	203	19	917,159
Beds - Hospital Beds	12	1	201,757	140	30	131,701

NURSING -NON - EXEMPT EMPLOYERS Total days lost claims by agency - 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Other Person	70	3	593,661	65	1	482,183
Beds - Hospital Beds	5		64,338	6		65,420

NURSING -NON - EXEMPT EMPLOYERS Total no-days lost claims by agency - 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Other Person	99	7	34,833	101	4	28,483
Beds - Hospital Beds	11	1	1,807	15	0	3,373

Predictably the highest cost of claims by body location reflects the national statistics where lower back is the predominate site of injury for nurses. Again this stems from the amount of lifting, bending, twisting and stooped postures entailed in nursing which result in both specific incident injury or cumulative lower back damage. However nurses report the full range of shoulder, arm, neck, hip, knee and foot injuries related to manual handling tasks.

NURSING - EXEMPT EMPLOYERS
Cost of claims by body location 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Lower Back	129	17	1,365,326	144	14	814,546

NURSING - NON-EXEMPT EMPLOYERS
Cost of claims by body location 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Lower Back	143		907,500	122		371,870

The analysis of claims by occupation are interesting given that it has been popular belief that the EN rate of injury would be higher, given their role in hands-on care, showering, feeding and transferring patients. However the RN injury rate is roughly equal to the EN's, which reveals the strain caused by the range of manual handling tasks also entailed in RN work and highlights current employment numbers of RN's and EN's. A further breakdown of injury rates for Level 1 to 5 is not available under the present coding (although experience by the union of members claims indicate a sharp drop of claims from nurses at level 3 and above).

NURSING - EXEMPT EMPLOYERS
Cost of claims by occupation 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
EN's	162	31	3,354,923	155	16	1,521,648
RN's	166	18		165	23	

NURSING - NON EXEMPT EMPLOYERS
Total days lost claims by occupation 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
EN's	59	4	1,457,477	53	1	697,696
RN's	58	2		46		

NURSING - NON EXEMPT EMPLOYERS
Total no-days lost claims by occupation 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
EN's	80	4	18,630	73	3	26,259
RN's	94	6	33,170	100	2	37,496

**COMPARISONS OF MANUAL HANDLING INJURIES IN NURSING
WITH MANUAL HANDLING INJURIES WITHIN OTHER INDUSTRIES**

**NON EXEMPT EMPLOYERS
Total No-Day Lost**

	1991-1992		1992 - 1993
Labourers - 13	\$3,017	Labourers - 14	\$4,251
Male 10		Male 7	
Female 3		Female 7	
Truck Drivers 352	\$181,123	Truck Drivers 282	\$107,739
Male 338		Male 273	
Female 14		Female 9	
Other Trade Assist. & Factory Hands 824	\$246,220	Other Trade Assist. & Factory Hands 700	\$238,674
Male 623		Male 539	
Female 201		Female 161	
Cleaners 241	\$117,293	Cleaners 260	\$142,363
Male 86		Male 155	
Female 155		Female 86	

**EXEMPT EMPLOYERS
Total No-Day Lost**

	1991-1992		1992 - 1993
Labourers - 5	\$28,082	Labourers - 20	\$723
Male 3		Male 20	
Female 2			
Truck Drivers 104	\$631,039	Truck Drivers 115	\$525,731
Male 104		Male 112	
		Female 3	
Other Trade Assist. & Factory Hands 289	\$3,075,731	Other Trade Assist. & Factory Hands 238	\$1,694,806
Male 199		Male 157	
Female 90		Female 81	
Cleaners 187	\$1,897,498	Cleaners 151	\$579,891
Male 33		Male 22	
Female 154		Female 129	

OTHER INDUSTRIES MANUAL HANDLING INJURIES

**NON - EXEMPT EMPLOYERS
Total Days Lost Claims - 1/7/91 - 30/6/92 & 1/7/92 - 30/6/93**

	1991/92			1992/93		
	Female	Male	Cost \$	Female	Male	Cost \$
Labourers	2	2	79,347.00	2	4	6,264.00
Truck Drivers	8	174	3,553,418.00	9	194	2,684,720.00
Other Trades Assist. & Factory Hands	102	247	3,420,284.00	10	6	101,689.00
Cleaners	151	36	1,698,849.00	147	14	1,409,305.00

The comparison of claims made by workers from different industries, of greater than or equal to 5 days off work, reveals that nursing is a strong competitor with other "manual" work. Total costs are close for all manual handling claims and are particularly concerning when allowance is made for the size of the nursing workforce when compared to the far greater numbers in the "trades/factory hands" and "labourers" areas.

**TOTAL MANUAL HANDLING INJURIES 1991 - 1993*
NURSING & OTHER INDUSTRIES**

Nurses	1,321 Injuries out of a total of 18,258	At a cost of \$7,147,302
Labourers	44 Injuries out of a total 3,954	At a cost of \$171,684
Truck Drivers	1,238 Injuries out of a total of 9,465	At a cost of \$7,683,770
Other Trades Assist. & Factory Hands	2,416 Injuries out of a total of 18,060	At a cost of \$8,777,604
Cleaners	1,214 Injuries out of a total of 15,515	At a cost of \$5,845,199
Ambulance Officers	67 Injuries out of a total of 441	At a cost of \$318,330
General Medical Practitioners	4 Injuries out a total of 2,370	At a cost of \$25,158

*[all claims]

B I B L I O G R A P H Y

- Bates, J. (1991)
"Health Industry Back Pain Prevention Package" *WorkSafe Australia, Queensland Nurses Union of Employees, Voluntary Care Association Queensland; Nursing Homes Association of Queensland, Sydney*
- Bowes, L. (1994)
Evaluation of WorkCover Research and Education Grants 1992/1993
[Internal Report] Adelaide WorkCover Corporation
- Caruso, G (1986)
"Manual Handling - practical approaches to injury prevention"
Journal of Occupational Health & Safety - Australia and New Zealand 2 (2) Pg 100 - 106
- Collins, M (1990)
Occupational Back Pain in Nursing Development and Evaluation of a Comprehensive Prevention Program
Commonwealth of Australia, WorkSafe Publication
- Corlett EN (et al) (1981)
The Guide to the Handling of Patients
Middlesex: National Back Pain Association Publication
- Dept of OHSW of WA (1989)
Strategies to Reduce the Risk of Back Strain in Nursing Homes
Perth: Dept of OHSW of WA
- Ehrenreich B and English D (1973)
Witches, Midwives and Nurses. A History of Women Healers
London: Writers and Readers Publishing Cooperative
- Hayn, C. and McDermott, M (1982)
"Safety does it - Handling Patients" *Nursing Mirror* June 23 1982
Pg 45 - 47
- Kemprnich B, (1993)
"Working it Out - Employment Patterns of Women"
SA Dept. of Labour Womens Advisors Unit
- Knibbe, H (1992)
"Overcoming Resistance" *Nursing Times* Vol. 88 No. 52
December 30th 1992 Pg 46
- Larcombe, J. (1993)
"Too Heavy to Handle?" *Nursing Times* 89:40 October 6 1993
Pg 46 - 50
- Matthews, John (1985)
Health & Safety at Work
Sydney: Pluto Press
- Meikle, Kate. (1995)
"Nursing Top Rate of Injury List"
The Australian, 9th February 1995 Pg 5.
- Mc Govern, P (1985)
"Towards Prevention and Control of Occupational Back Injuries"
Occupational Health Nurses, April Pg 180 - 183
- National OHS Strategy in the Health Industry Steering Committee (1994)
Improving OH&S in the Australian Health Industry Project Report
Worksafe Australia, Australian Health Ministers Advisory Council
- Owen, B. D. (1989)
"The Magnitude of Low-Back Problems in Nursing" *Western Journal of Nursing Research* 11 (2) Pg 234 - 242
- Pocock, Marion (1992)
Manual Handling in Nursing Project - Report of Stage 1 1991 -1992 Adelaide: Australian Nursing Federation
- Pocock, Marion (1993)
Final Report: Manual Handling in Nursing Project 1992 - 1993
Adelaide: Australian Nursing Federation
- Queensland Department of Employment, Vocational Education, Training and Industrial Relations (1989)
Workplace Health & Safety Act 1989
Woolangabba: QLD Government Printer
- Queensland Division of Workplace Health & Safety (1992)
Code of Practice Manual Handling, The Handling of People. Dept. of Employment, Vocational Education Training and Industrial Relations.
Woolangabba: QLD Government Printer
- SA Government (1986)
Occupational Health Safety & Welfare Act 1986
Adelaide AGPS
- SA OH & S Commission (1991)
"Manual Handling Regulations & Code of Practice" *Occupational Health Safety & Welfare Act 1986*
Adelaide AGPS
- SA OH & S Commission (1986)
Industrial Premises Regulations
Commercial Premises Regulations
Adelaide AGPS
- SA OH & S Commission (1993)
Report on the Evaluation of the Strategy for the Implementation of the Manual Handling Regulations and Code of Practice
Internal document: Unpublished
- Stubbs, D, (Ed) (1987)
Special Issue: "Ergonomics in Nursing", *International Journal of Nursing Studies* 24 (4)
- Stubbs, D A. Baty, D. Buckle, P W. Funances, AF. Hudon, M P. Rives, P M and Barlow, C. (1984)
Patient Handling and Back Pain in Nurses - Interim Report, 1984
DHSS Report No. JR 125/120
- Victorian Department of Labour (1990)
Manual Handling Audit and Awareness Campaign in Victorian Public, Private and Psychiatric Hospitals (August 1989 - July 1990)
Melbourne: Government Printers
- Victorian Department of Labour (1991)
Manual Handling in the Health Industry : Patient Care, Identification and Solutions
Melbourne: Government Printers
- WorkSafe Australia (1994)
"Review of National OH & S Statistics" *WorkSafe News*
January 1994 Vol. 9 No. 1 Pg 5
- WorkSafe Australia (1994)
Occupational Health & Safety: The Experience of Women Workers, Australia 1991-92 Pgs iii and 22-23
Canberra AGPS

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