

"HEALTH AT WORK" - THE DEVELOPMENT OF A WORKPLACE HEALTH PROMOTION MODEL FOR THE QUEENSLAND COAL INDUSTRY

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ABSTRACT

"Health at Work" is a workplace health promotion project funded by the Queensland Health Promotion Council and conducted by researchers at SIMTARS, the School of Public Health at the Queensland University of Technology, and the Queensland Coal Board. Curragh and Gordonstone mines are participating as pilot mine sites, representing one underground and one opencut operation. A model for workplace health promotion for the coal industry has been developed which comprises three primary stages. Stage 1 ascertains the health needs of the workers and the worksite through different needs assessment tools and analysis of health and safety data. Stage 2 utilises the data from the first stage to develop relevant and appropriate health programs for the mine site. The final stage is an extensive evaluation of the process and impact of the health programs at an individual and structural level. Preliminary results from stage 1 suggest a number of health needs at the two mine sites. These include back care, the health effects of shift work, nutrition, exercise and health testing. Consultation with the mine sites is being undertaken to prioritise these issues and plan strategies for implementation of the health interventions. A workplace task group has been established at each mine site to represent worker groups and assist in facilitating the process and implementation. **"Health at Work"** is a proactive health program which aims to improve the health knowledge and skills of workers in the participating mines. It both complements and extends the existing occupational health and safety structure in the mine to provide a comprehensive strategy for improving the health of all workers. The coal industry workplace health promotion model has been developed to be adaptable to different mine sites and is flexible to the unique needs of individual mine sites. Ongoing funding is being sought to extend the **"Health at Work"** project into additional coal mines.

INTRODUCTION

Workers spend approximately a third of their day at work and there is ample evidence to support the relationship between the work environment and the health of employees.^{1,2,3} For many people their day to day lives are shaped by their work experiences in terms of their capacity to earn an income, interpersonal relationships and the sense of purpose that work can provide. It is, therefore, important to ensure that Australian workplaces have a positive rather than negative impact on employee health.⁴

There has been a shift away from viewing the work environment mainly as a source of harm and ill health, to a view that the workplace also provides opportunities for positively enhancing the health of large sections of the community.⁵ This is illustrated in the "*Health at Work*" project, a pilot workplace health promotion project currently operating at Curragh and Gordonstone coal mines. "*Health at Work*" is a pro-active health project which sees university and industry expertise working with unions, workers and mine management to develop a comprehensive workplace health program. "*Health at Work*" seeks to actively promote the worksite as a health improvement centre, focussing on participation of workers and sustainability of health programs in the long term.

WHAT IS WORKPLACE HEALTH PROMOTION?

The workplace has been used as a setting to promote the health of workers and their families for several decades, with health promotion at the worksite becoming increasingly popular over the past 15 to 20 years.^{6,7} Promoting a comprehensive approach to workplace health promotion, the National Steering Committee on Health Promotion in the Workplace (1989) defined workplace health promotion as

*'those educational, organisational or economic activities in the workplace that are designed to improve the health of workers and therefore the community at large.'*⁸

This type of health promotion involves workers and management participating on a voluntary basis in the implementation of jointly agreed programs using the workplace as a setting for promoting better personal health.⁹ Achieving a healthy workplace requires a comprehensive strategy - one that provides mutual benefits for the organisation and the employee, on the basis that good health practices on the part of both will lead to individual fulfilment and organisational productivity.¹⁰ It has been recognised for some time that a broad range of social, economic, cultural, environmental and organisational factors are able to significantly affect an individual's health status, either promoting or undermining it.¹ The notion of the 'health promoting workplace' must therefore address educational, political, economic and environmental factors that impact on health in the workplace.

Engaging in health promotion does not compete with the workplace's priority or ability to address occupational health and safety matters and does not in any way reduce the obligation or shift the responsibility from the employer for providing a safe work environment.^{11,12} Health promotion programs must complement and not replace, efforts to identify, measure and control workplace hazards.¹³ Effective health promotion in the workplace should be integrated with occupational health and safety aims and objectives, to provide a comprehensive strategy aimed at improving the health of the workforce.

WHAT ARE THE BENEFITS OF WORKPLACE HEALTH PROMOTION ?

The implementation of health promotion programs at work is thought to provide a number of short and long term benefits to both the employer and the employee. Galbally (1990) cites lower rates of absenteeism, reduced benefit costs such as workers compensation and increased morale.¹⁴ This is reiterated by Terborg (1995) who also claims that workplace health programs may have additional

benefits including better industrial relations; increased employee involvement; improved productivity through reduced tardiness, absenteeism and turnover and better employee recruitment and selection. This in turn would lead to more creative and energetic employees and the enhancement of the company's public image as a productive organisation that is a good place to work.¹¹

Documenting benefits to employees is easier than documenting benefits to employers. Health promotion programs have been shown to help employees improve their physical health status as well as their mental health.^{15,16,17,}

In addition there is considerable potential for spill over effects from the worksite to the family and for involving family members in worksite programs. There are therefore indirect benefits of workplace health promotion in the important contributions made to the improved health of the broader community, such as the transfer of health knowledge, attitudes and behaviour skills.¹

WORKPLACE HEALTH PROMOTION IN THE QUEENSLAND COAL INDUSTRY

There are few published studies on workplace health promotion in the Queensland Coal Industry. Some comprehensive programs have been delivered with measurable benefits to both employers and employees.¹⁸ Typically however, workplace health programs in the coal industry have focused mainly on the goal of achieving change in individuals in the short term and have not utilised the range of strategies that are possible in the worksite. The programs are often based on behaviour change strategies such as screening, education or counselling. There is little evaluation, minimal follow-up and virtually no commitment to long term preventive strategies.¹³ Furthermore, often only the healthy subset of workers present to these programs and thus those who are most at risk are not reached. This limits the effectiveness and efficacy of such worksite health programs.

The worksite provides a multitude of opportunities for promoting health, which extend beyond the individually-focussed health education approach.⁵ Contemporary writing and practice in workplace health promotion suggest a broadening of the traditional health education focus to encompass structural and work culture changes in the organisation, along with behaviour change strategies involving management, unions and government in formulation of policy and implementation of programs. There is, therefore, the need to move along from a singular focus on individual behaviour changes to a recognition of the broader social, environmental and economic determinants of health. If workplace health promotion programs in the coal industry are to be effective and produce long-term benefits to employees, their families and the community at large they need to take a holistic or a 'settings' approach to health promotion which acknowledges that employee health is affected by more than just behaviour.⁴

HEALTH STATUS OF QLD COAL INDUSTRY EMPLOYEES

The health profile of the coal mining workforce has changed significantly over the last decade, reflecting increased technology and subsequently changes in work roles. Fifty years ago, the physical nature of work helped to maintain the physical condition of many workers. The combined effects of increasingly sedentary tasks and habits of lifestyle have resulted in a workforce with reduced physical abilities. With many organisations experiencing a contracting workforce yet having to maintain productivity, there is clearly a need for effective management of the health of human resources. The ageing of the mining workforce, coupled with the prevalence of a number of health risks and diseases, has significant implications for health care and health care costs for mining communities. This may be compounded by the geographical location of mining communities, with mining towns in Queensland typically located in isolated areas with one town serving one or more mine.

There is a paucity of epidemiological data on lifestyle risk factor prevalence in the Queensland Coal

Industry. Data from the Queensland Coal Board Health database suggests that there is a high prevalence of overweight and obesity and high prevalence of smoking and alcohol use. Whilst the database provides an indication of some of the potential health problems, certain limitations of this database prevent it from being a definitive measure. Further comprehensive studies are needed to ascertain the prevalence of lifestyle risk factors within this population.

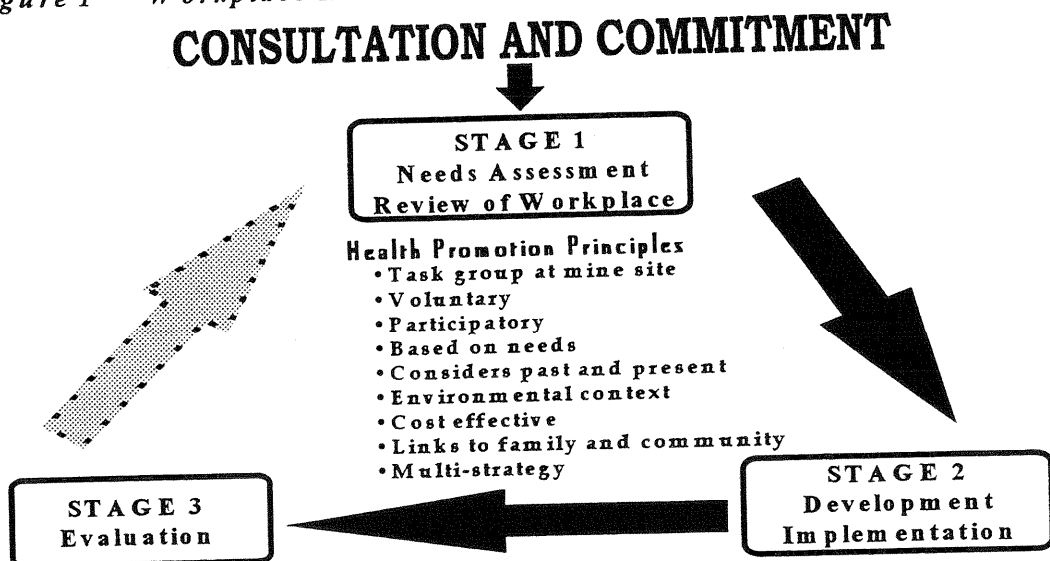
WHAT IS "HEALTH AT WORK"

Recognising the lack of comprehensive health promotion programs in the coal industry and the potential for improvement in the health status of workers, the Queensland Health Promotion Council funded a one year project for the development, implementation and evaluation of a workplace health promotion model for the Queensland coal mining industry. The project is being conducted by researchers at SIMTARS, the School of Public Health at the Queensland University of Technology, and the Queensland Coal Board. Curragh and Gordonstone mines are participating as pilot mine sites, representing one large opencut and underground operation. The overall aim of the project is to improve the knowledge and health skills of workers in participating coal mines on different health topics and to improve the health of the organisation.

A MODEL FOR WORKPLACE HEALTH PROMOTION IN THE COAL INDUSTRY

Figure 1 outlines the model developed for the "Health at Work" project

Figure 1 Workplace Health Promotion Model for the Coal Industry



The Stages of the Model in Detail

Prior to stage 1, consultation is undertaken with mine management and worker representatives to explain the *"Health at Work"* project and gain commitment from mine management for the completion of the project. This is the first step in the participatory process which aims to remove some of the potential barriers which may arise throughout the project stages.

Stage 1 - situational audit and needs assessment. The assessment of needs includes; the identification of health problems/concerns present in the workplace; the identification of structures, resources and networks which the workplace is able to provide and which could be used in the program; and the identification of community facilities and resources which could be used in the program.

A number of needs assessment tools have been developed for the *"Health at Work"* project. These include; a health survey for all workers; key informant interviews; and an audit of the work environment. Data from the Queensland Coal Board Health Database and other health sources have also been accessed to provide an indication of some of the principal health concerns at the participating mines.

Stage 2 - development and implementation of interventions. Health interventions will be identified according to the results of stage one. Research evidence suggests that a range of health promotion strategies are available for workplace interventions. These include;

1. Health risk appraisals including health risk assessment, feedback, advice and printed record of results
2. Self instruction program materials and counselling
3. Group based education programs
4. Interventions targeting the organisation

The project will adapt existing state-of-the-art resources/materials produced for a variety of occupational and community groups for implementation in the participating mine sites.

Stage 3 - a process and impact evaluation of the program. The process evaluation will determine whether all activities of the intervention were implemented as planned and the extent of program satisfaction at both worker and mine management level. The impact evaluation will assess the immediate impact of the intervention at both the individual and structural level. An overall evaluation of the workplace health promotion model will also be conducted and modifications to the model made accordingly.

Stage 1 to Stage 3 represent Phase 1 of the *"Health at Work"* project. Phase 2 and Phase 3 plan to extend the *"Health at Work"* project into the family and community settings and into other coal mines. The extension of the project is contingent on further funding.

The principles underpinning the model

A number of principles underpin the workplace health promotion model. These promote ownership of the program at the mine site and ensure maximum effectiveness of the workplace health promotion programs.

1. Participatory Approach

Successful implementation of the model is dependant on engendering the support and commitment of key individuals and ensuring the participation of workers in the process. This is largely done through a workplace task group at the mine site. The role of the task group is to represent the workers in making decisions relating to the needs assessment, program planning, the health interventions and the evaluation.

2. *Voluntary*

All aspects of the program are conducted on a voluntary basis for all sections of the workplace. All information collected for program development is confidential and any assessment remains anonymous.

3. *Needs based*

The development of the health interventions is based on the needs of the workers and the organisation. The project considers *past and present programs* conducted at the mine site to ensure that there is no duplication. In addition the *environmental context* in which the workers work and live is considered.

4. *Cost Effective*

By utilising existing resources in the workplace, together with other available community resources, the development of health promotion programs in the workplace are cost-effective and inexpensive

5. *Links to Family and Community*

The program includes strategies to strengthen links with the community and recognises the impact of family and community on worker health.

6. *Multi-strategy*

A variety of strategies and methods are used in the development, implementation and evaluation of the workplace health promotion program.

7. *Dissemination of Information*

Regular information about program progress is distributed through newsletters, posters and workplace task groups.

8. *Sustainable*

The program is flexible and sensitive to the priorities and the changing needs of the workplace. Realistic short and long term goal are set.

"HEALTH AT WORK" - PRELIMINARY RESULTS

"*Health at Work*" has been operating at Curragh and Gordonstone mines since January 1996. Stage 1, the needs assessment, has been completed at both mine sites. The principal results from the Curragh health survey identify that;

- a number of health issues are of interest to workers. Back care, the health effects of shift work and health testing were most commonly reported;
- 27% of workers smoke and 29% are ex-smokers;
- more than a quarter of workers do not drink alcohol on a regular basis;
- 13% of workers drink alcohol at what is considered to be a harmful level;
- 86% of workers at Curragh are overweight;
- there was a high level of nutrition knowledge among survey participants;
- shift work has specific effects on social life, work performance, domestic life and sleep patterns;
- the average age of workers at Curragh mine is 38.

Additional analysis from medical data and other health information identified that issues including nutrition, alcohol use and exercise may be worth addressing. Furthermore, data from the situational audit demonstrated that health promotion activity had been limited and primarily consisted of monthly one-hour health education sessions with some special health education programs. Health testing was available to the workers on a voluntary basis, but typically frequented by the healthy subset of workers. There was little evidence of comprehensive long term health promotion strategies in place.

The research team and the task group are in the process of identifying and prioritising needs and developing health programs for the two mine sites. Initial indications from stage 1 at Curragh suggest that two health issues will be targeted, namely back care and the health effects of shift work. It is envisioned that the back care programs will be specified to each work area, whereas the shift work programs will be broad based and will target both workers and their families. Dependant on the health issues to be addressed, it is proposed that consultants with expertise on the targeted health areas will be employed to assist in the development of health interventions. Analysis of the results from stage 1 at Gordonstone are still being undertaken.

Instrumental to the progress of *"Health at Work"* at both mine sites has been the establishment of workplace task groups who act as worker representatives. They have assisted in the development of the health survey and in other aspects of the needs assessment and situational audit. The task groups are currently assisting in the identification of the priorities for the health programs and the development of strategies for interventions and implementation.

CONCLUSION

The *"Health at Work"* project utilises contemporary workplace health promotion research and knowledge about effective and efficient workplace interventions. The project employs the elements of 'best practice' in workplace health promotion drawn from research literature and practice. The utilisation of the *"Health at Work"* project illustrates a progressive and pro-active occupational health and safety environment in the mine. The model is designed to be flexible and adaptable in different contexts and is tailored and delivered in collaboration with each workplace. This ensures that the project is specific to each mine and facilitates the process of design, implementation and evaluation. Thus the precise nature of *"Health at Work"* when translated into action, will vary from one workplace to the next and will depend, to a large extent, on the unique needs of each organisation and its workforce.

It is fundamental that worksite programs should be designed as part of a larger system that promotes health and safety and reduces injury and disease. The *"Health at Work"* project complements and enhances the existing occupational health and safety structure at the minesite. The project is responsive to the needs of the workforce, eliminating the potential for duplication of services and ensuring that programs are relevant to the workers. The incorporation of an evaluation component into project design aims to ensure that the development of programs are both effective, efficient and cost effective.

It is evident that a healthy workplace is attainable only through the commitment and cooperation of employers, employees and employee representatives, all working together to build creative and supportive environments. The *"Health at Work"* project is 'state of the art' in promoting the health of employees at the mine site and whilst the 'challenge is great, so are the rewards.'⁵

ACKNOWLEDGMENTS

The project team wishes to acknowledge the invaluable support of ARCO, the key contacts and the Task Groups at each mine site and the workers at Gordonstone and Curragh. In addition the support and advice of the Unions, the Nominated Medical Advisers and the Members of the Queensland Coal Board have been instrumental in this pilot phase of the project. The team also acknowledges the advice given by the project team at the National Workplace Health Project at the University of Sydney. Funding for this project has been provided by the Queensland Health Promotion Council.

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