

# RISK FACTORS FOR HEART DISEASE AMONG COAL MINERS

## RESEARCH TEAM

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## RESEARCH OBJECTIVES

This project examined the question as to whether there is an increased risk of coronary heart disease in the coal mining industry by determining:

- X the mortality rate for Australian miners associated with heart disease;
- X the level of risk associated with the work and lifestyle risk factors associated with heart disease in the coal mining industry.

## BACKGROUND

An increased risk of death from heart attack has been identified in coal miners in the United States. An overall increase in risk from cardiovascular disease has not been identified.

The prevalence of coronary heart disease and the effect on the mortality rate of Australian coal miners has not been previously investigated.

## PROJECT METHODOLOGY

The mortality rates associated with heart disease in the New South Wales and Queensland coal mining industry was compared with general population data.

The project also examined data from medical records compiled by the JCB and the Queensland Department of Natural Resources and Mines. The data examined included:

- X blood pressure;
- X body mass index.

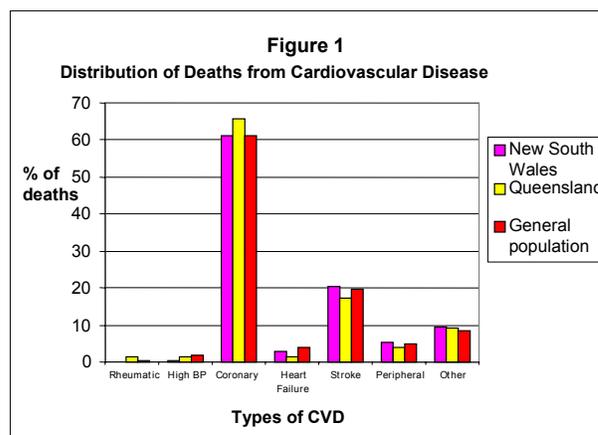
Medicals were grouped as entry and routine and stratified by state, age and mine type (including contactors). This data was compared with general community data compiled by the AIHW.

The third part of the study examined a range of work and lifestyle information extracted from a number of studies undertaken by SIMTARS and others since 1996. This data was also compared to general community information available from the AIHW.

## RESULTS

### Mortality

Based on the results of the analysis of mortality data available, there does not appear to be an increased risk of death from heart disease for the Australian coal industry at the

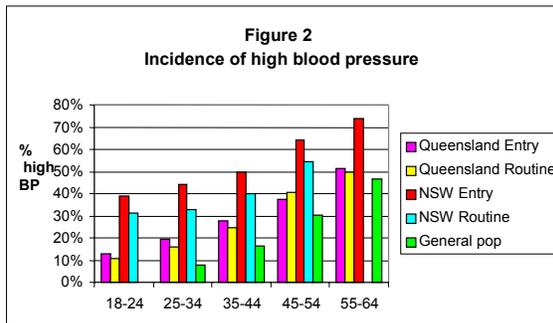


present time as shown in Figure 1.

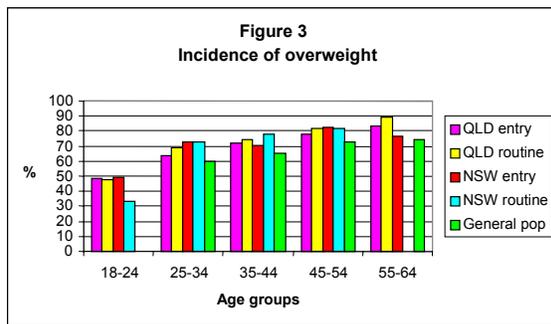
There are however, a number of factors that indicate an increased risk of heart disease for coal miners.

### Risk Factors

Analysis of the blood pressure levels of entrants and current workers indicates a significantly increased incidence of high blood pressure compared to the general population. This is particularly marked for new entrants in New South Wales (Figure 2) and this factor warrants further investigation.



The incidence of body mass index > 25 is higher in the coal mining industry than the general population as shown in Figure 3.



### Lifestyle Factors

Lifestyle factors of physical activity, alcohol use, tobacco use and diet and nutrition are consistent with the risk level of the general population eg Table 1 shows the comparison between smoking levels in the coal industry and the general population.

**Table 1**  
**Smoking status**

Population Group	% of Smokers
General population	30.2
Coal mining – all groups	27
Data from Qld medicals	27

### Work Related Factors

There are work related factors associated with coal mining that have been shown to increase the risk of heart disease. Levels of exposure to noise and dust may contribute to increased heart disease risk. The widespread use of shift work in the mining industry may contribute to this increased risk. Shiftwork may also increase stress levels. Exposures to heat and cardiotoxic compounds were considered to not be significant in increasing the risk of heart disease due to the control of these factors

### CONCLUSION

Based on the results of the analysis of mortality data available, there does not appear to be an increased risk of death from heart disease for the Australian coal industry at the present time.

There are however, a number of factors that indicate an increased risk of heart disease for coal miners when compared to the general population.

Monitoring of the risk factors needs to continue to enable continued benchmarking with the general population.

Further information about the project can be obtained from Ms Carmel Bofinger, SIMTARS,  
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