

Health Issues in the Mining Industry

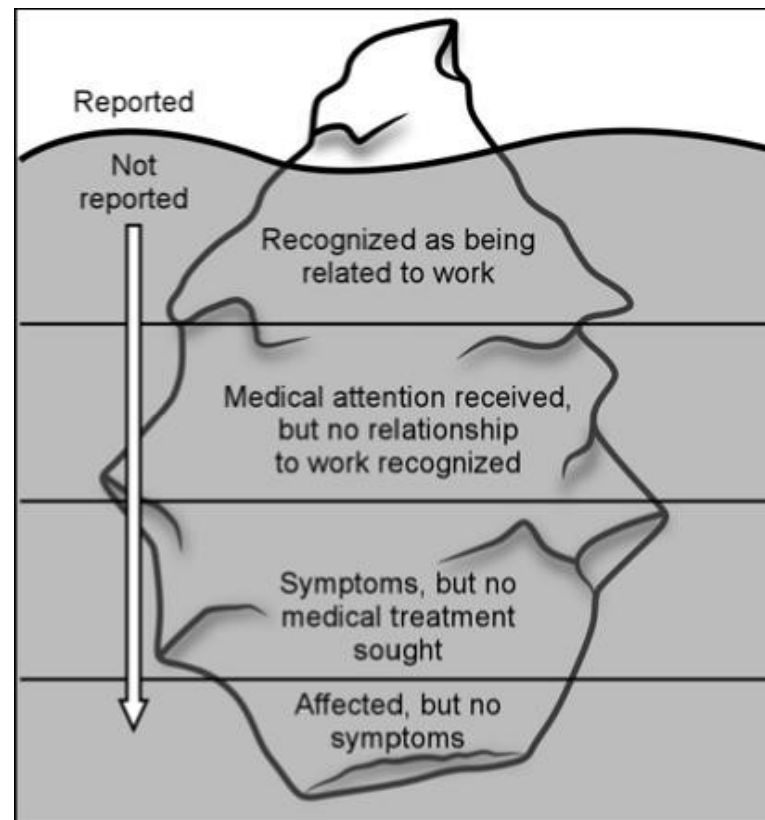


In Memory of Fay Buerger

- Mining Mondays

30th October 2023

One of the biggest problems in illness and disease in mining is reporting



Various illness and disease classifications

Lung disorder

Occupational lung diseases

Chronic obstructive pulmonary disease

Dust diseases of the lungs

Coal-workers pneumoconiosis

Asbestosis

Silicosis

Asthma

Respiratory conditions caused by toxic agents

Repetitive motion

Carpal tunnel syndrome

Tendonitis

Disorders associated with repeated trauma

Other

Neurotoxic disorders

Noise-induced hearing loss

Dermatologic conditions

Poisoning

Severe occupational traumatic injuries Reproduction disorders

Disorders caused by physical agents other than toxic agents

Malignant pleural neoplasm

Occupational cardiovascular diseases

Lead toxicity

Pesticide and insecticide toxicity

Hepatitis B/C

Aging Workforce

Alcohol & Drugs Abuse>

<Psychological disorders

Fi-Fo >

<Suicide

Boom & Bust Cycles >

<Mental Health Issues

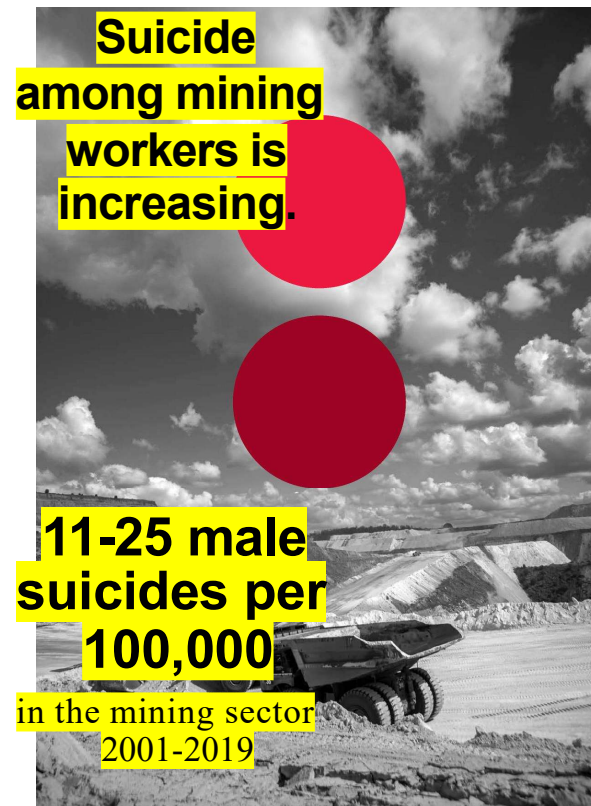
SUICIDE IN THE AUSTRALIAN MINING INDUSTRY: A NATIONAL STUDY

Report submitted
to
MATES in Mining
by
The University of
Melbourne



<Mates in Mining & University of Melbourne>

Suicide



Summary

- Suicide is known to vary according to workplace factors. While international work indicates that workers employed in the mining sector may be at elevated risk of suicide, it is not clear whether rates of suicide among Australian mining workers differ from other workers.
- Rates of suicide among construction workers are known to be elevated in Australia relative to other workers. Given similarities between the construction and mining sectors in terms of occupations (predominantly labourers and skilled trades workers), composition (male-dominated), and normative factors (prevalence of traditional masculine norms), it is possible that rates of suicide among mining workers are similar to that of construction workers. Other research has found high levels of psychological distress among mining workers, and mining specific factors such as the rising prevalence of FIFO and DIDO arrangements may also increase risk among mining workers.
- Based on the success of MATES in Construction, MATES in Mining (MiM) has commenced as a workplace-focused suicide prevention program in the Australian mining sector, aiming to prevent suicide among mining workers. To inform its ongoing suicide prevention program, MiM commissioned this study to examine suicide among males in the Australian mining sector between the years of 2001-2019. The study used data from the National Coronial Information System (NCIS) database, rates of suicide among mining workers was compared to that of construction workers, mining and construction workers combined, and all other workers

Summary (Cont)

- Despite substantial challenges in identifying mining decedents and based on the available data, we estimate that the suicide rate among mining workers is between 11 and 25 per 100,000 (and likely closer to 25 per 100,000) over the period of 2001-2019. There is also some evidence that the suicide rate among mining workers is increasing, and clearly the suicide rate among mining workers for the period of 2012-2019 was significantly higher than that of “other workers.
- Despite substantial challenges in identifying mining decedents and based on the available data, we estimate that the suicide rate among mining workers is between 11 and 25 per 100,000 (and likely closer to 25 per 100,000) over the period of 2001-2019. There is also some evidence that the suicide rate among mining workers is increasing, and clearly the suicide rate among mining workers for the period of 2012-2019 was significantly higher than that of “other workers.
- The number of suicides among female workers was too small to be robustly assessed

Suicide Deaths in different Industry categories and by sex

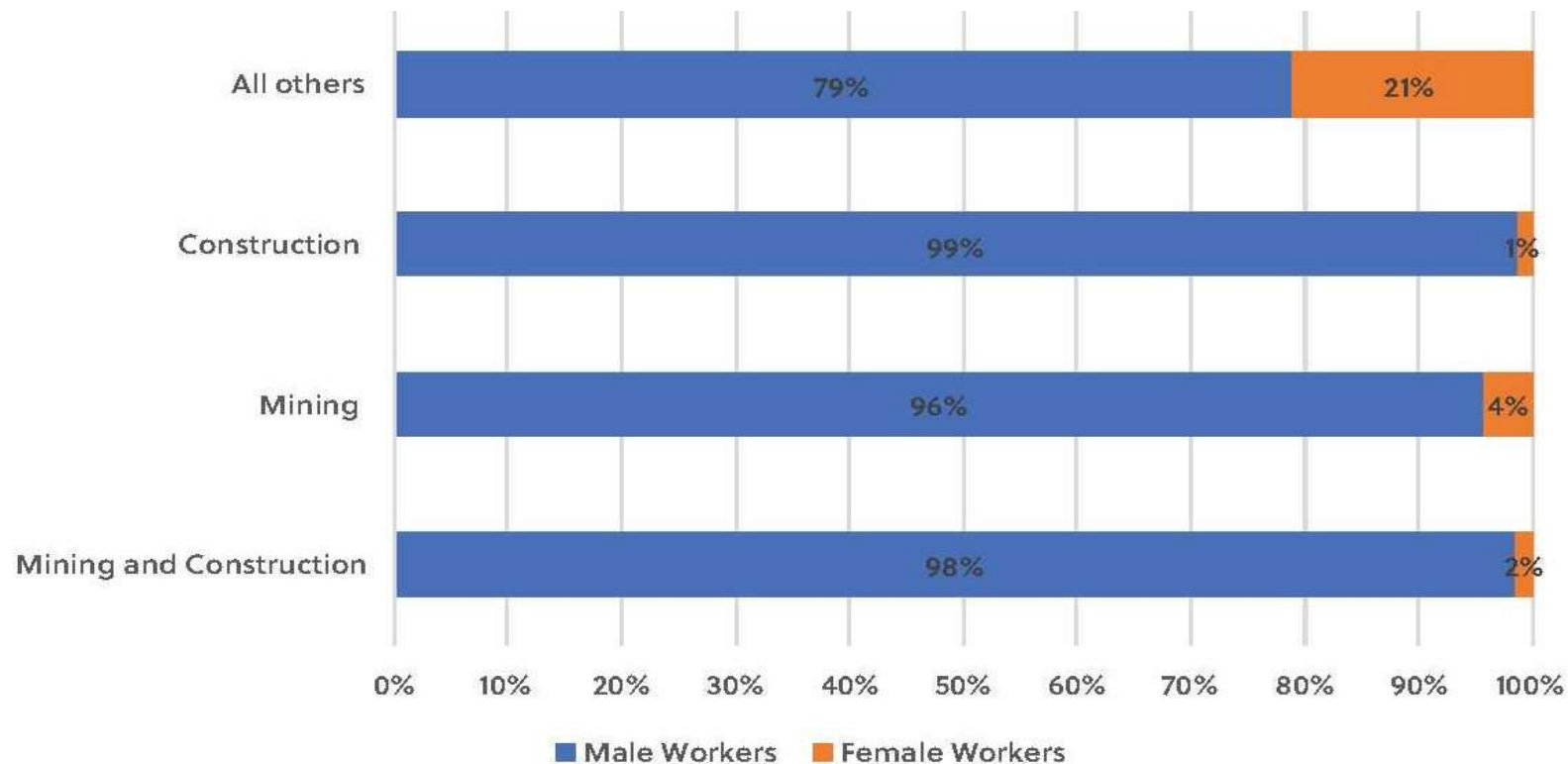
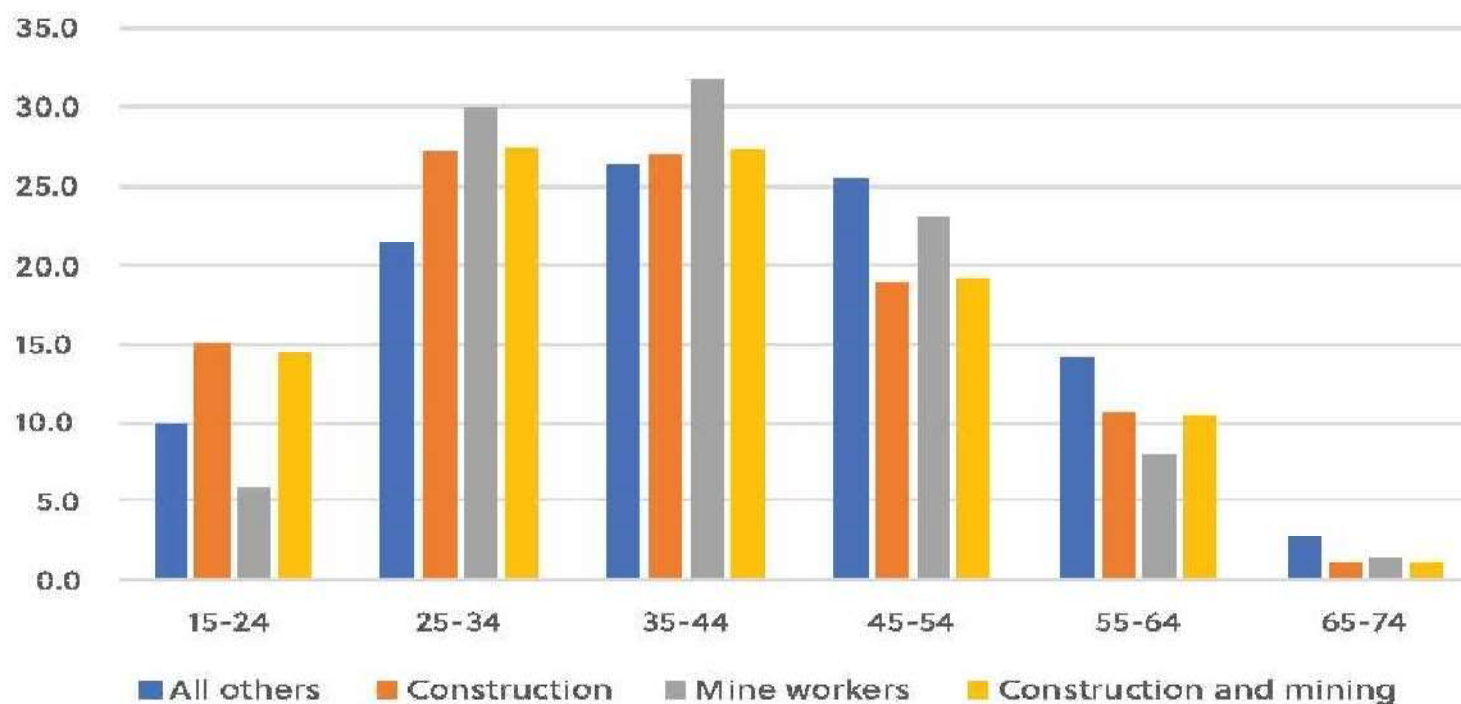


Figure 2: Suicide deaths (percentages) in different industry categories by sex (15-74 years)

Age Distribution of Suicide among Male

Figure 3: Age distribution of suicide among male mining and construction work compared to Australian workers employed in other industries



Suicide Deaths per Industry Group

Year block	Industry group	Total deaths by suicide
2001-2006	All other workers	3623
	Mining workers	43
	Construction workers	1198
	Mining and construction workers	1241
2007-2011	All other workers	3533
	Mining workers	75
	Construction workers	1272
	Mining and construction workers	1347
2012-2019	All other workers	3913
	Mining workers	169
	Construction workers	1349
	Mining and construction workers	1518

Other Evaluations

- FI-FO & DI-DO assessed but **insufficient data** to be meaningful.

Where possible, we sought information on the type of mine that each decedent worked in. We note that this was only possible for a proportion of mining workers (42%) and was obtained from the NCIS open text fields. The **largest proportion** of suicide deaths occurred among those who had been **employed in gold mines (n=45) and coal mines (n=31)** (Appendix 3 shows suicides across mining sub-categories). Sixteen had been employed in iron ore mining. The remaining mining sub-categories contained 10 or fewer suicide deaths. We note that these numbers are not standardised by sub-category population, so it is not possible to assess whether gold and coal mines are disproportionately represented here. Furthermore, given the large amount of missing data, it cannot be inferred that suicide is more common among workers in these types of mines – this is simply not possible to deduce.

Recommendations

- It is therefore our recommendation that advocacy efforts focus on the routine inclusion of 1-digit major division industry data in suicide mortality data collection. Organisations such as MATES could collaborate with other suicide prevention organisations such as Suicide Prevention Australia (SPA) to jointly advocate for the inclusion of information on the industrial sector that decedents worked in at time of death. The 2014 SPA Position Statement on Work and Suicide Prevention was an instructive example of SPA's interest in this topic. An update of this statement by SPA might be considered if MATES wished to offer to offer to collaborate on this effort.

Conclusions

It is difficult to confidently assess the extent to which mining workers are at elevated risk of suicide, given the significant data limitations. The likely misclassification of mining workers, and the consequent under-estimation of mining suicide cases obfuscates assessment of suicide risk. Despite these limitations, there is some evidence that the suicide rate among mining workers is increasing, and certainly the rate among mining workers for the period of 2012-2019 was significantly higher than that of “other workers” (excluding construction workers). This provides precautionary evidence that suicide mortality among mining workers may be of concern, particularly given the likely under-counting of suicides among mining workers. There is a clear imperative for more comprehensive industry and occupational information, and there is a need for advocacy to drive the collection of this important data.