

Working Well: Mental Health in Mining

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Centre for Resources Health and Safety

Overview

- * **Mental Health**
- * **Context**
- * **Aims**
- * **Methods**
- * **Results**
- * **Implications**
- * **Next Steps**



WORKING WELL
MENTAL HEALTH & MINING
AN ACARP FUNDED RESEARCH PROGRAM



Aims and Questions

1. What is the scope of the problem?
2. What are the main factors associated with these problems?
personal, social, workplace and employment characteristics
3. What are the levels of knowledge of, attitudes towards and responses to mental health problems?
4. What is the impact of mental health problems (on productivity)?
5. What is the acceptability and feasibility of a multiple component program to address mental health problems in coal mining?



What did we find?

- * Significant levels of mental health-related symptoms and alcohol use
 - * higher than comparable populations
- * Linked to combination of personal, social and workplace and employment factors
- * Main workplace factors are amenable to change and workplace interventions

Methods – Industry Engagement

- * ACARP funded
- * ACARP monitors
- * Industry engagement through
 - QRC
 - NSW Mining
 - Government Authorities

- Company engagement with support of monitors
- Mine engagement
- Union engagement



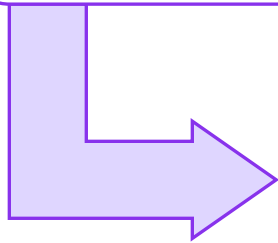
Methods - Design

- * Cross sectional survey
- * 8 coal mines in NSW and Queensland
 - Multiple organisations
 - Underground and open cut
 - Local employment and FIFO/DIDO



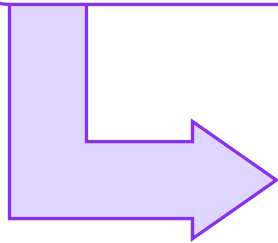
Mining Companies

- Provided contacts for individual mines



Mines

- Provided access to mine employees



Employees

- Sample

Methods - Survey

Domain	Measure
Mental Health Problems	<ul style="list-style-type: none">▪ Psychological Distress (Kessler 10)▪ Well being▪ Alcohol related problems (AUDIT)▪ Illicit Drug Use
Associated Factors	<ul style="list-style-type: none">▪ Personal and social characteristics▪ Workplace and employment characteristics
Knowledge Attitudes and Beliefs	<ul style="list-style-type: none">▪ Mental Health knowledge and stigma▪ Stigma of suicide
Costs	<ul style="list-style-type: none">▪ Absenteeism▪ Presenteeism▪ Productivity

Mental health-related symptoms

- * Common mental health-related symptoms (K-10)
 - * 10 items
 - * Last 4 weeks
 - * Impact on function
- * Reliable indication of likelihood of mental disorder in last 12 months:

* “low”	10%
* “moderate”	30%
* “high”	50%
* “very high”	75%

Alcohol Use

- * Alcohol Use Disorders Identification Test (AUDIT)
 - * Prior 6 months:
 - * Amount
 - * Frequency
 - * Related problems for self or others
- * Provides reliable indication of risk to harmful/
hazardous alcohol consumption

Impact

Domain	Measure
Absenteeism	▪ Self reported absence due to mental health problems
Presenteeism	▪ Self reported 'cutting down' due to mental health problems ▪ 30% non-productive (conservative estimate)
Wages	▪ Estimated hourly salary rates gathered from Mining Australia
Productivity	▪ Absenteeism and presenteeism by 11 months with hourly pay rate



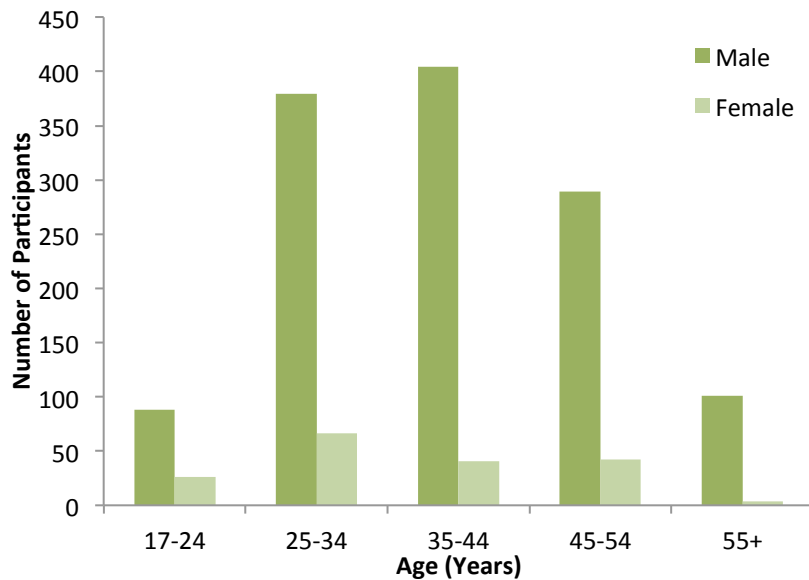
Results - Participants

- * 8 mine sites
 - NSW (5 sites) and Qld (3 sites)
 - Open cut (3 sites) and underground (5 sites)
 - Local employment (5 sites) and FIFO/DIDO (3 sites)
- * 1457 participants
 - 929 participants (response rate: 95%) at training days
 - 528 participants (response rate 22%) – no training days

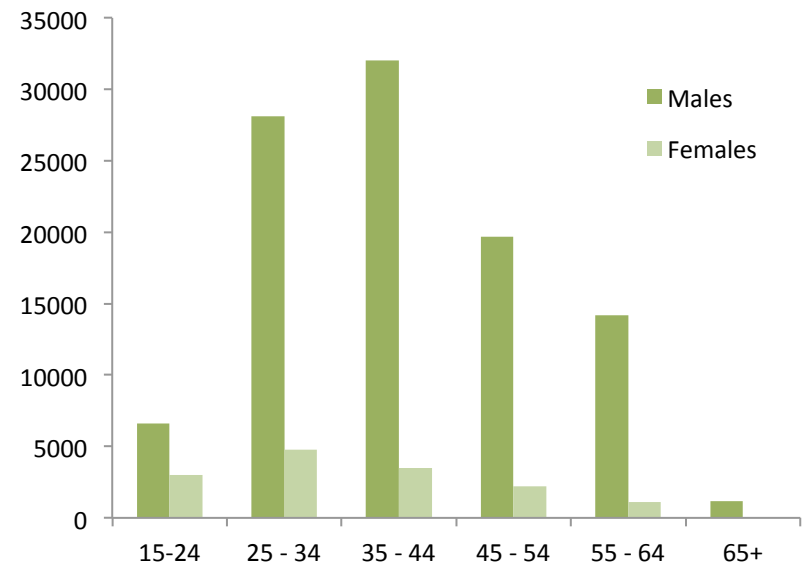


Participant Profile – Age and Gender

Mine Sample

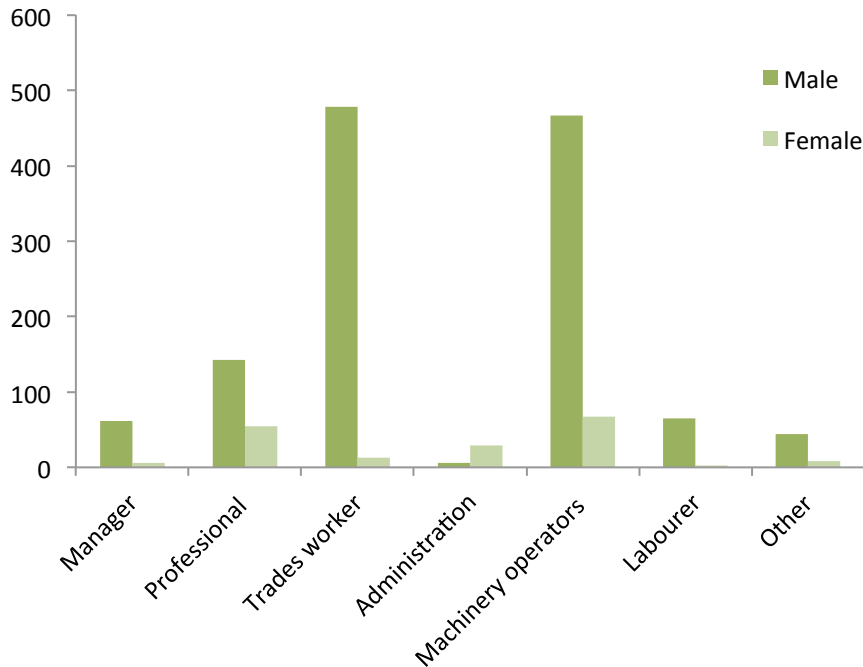


Mining population– NSW and Qld

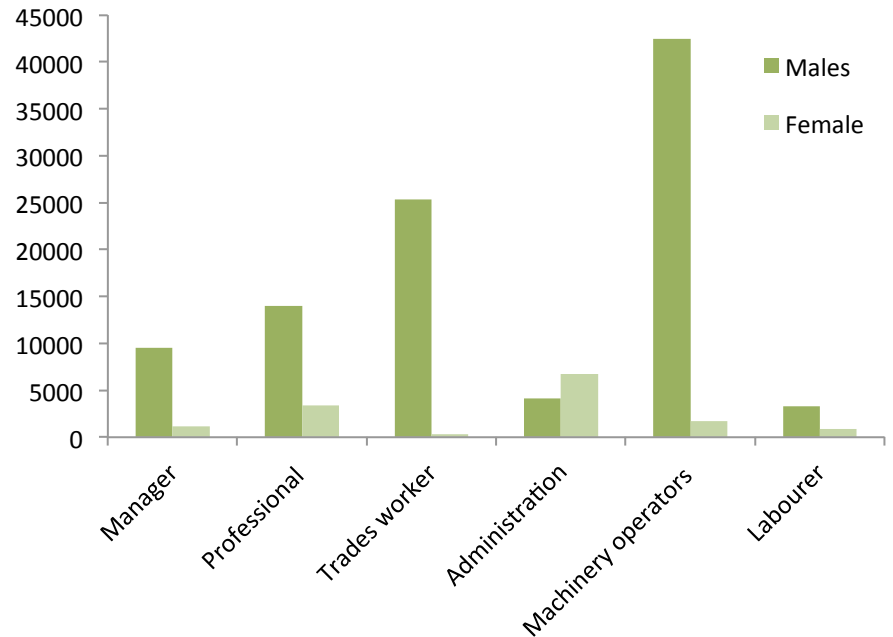


Participant Profile – Employment Category

Mine Sample



Mining in NSW and Queensland

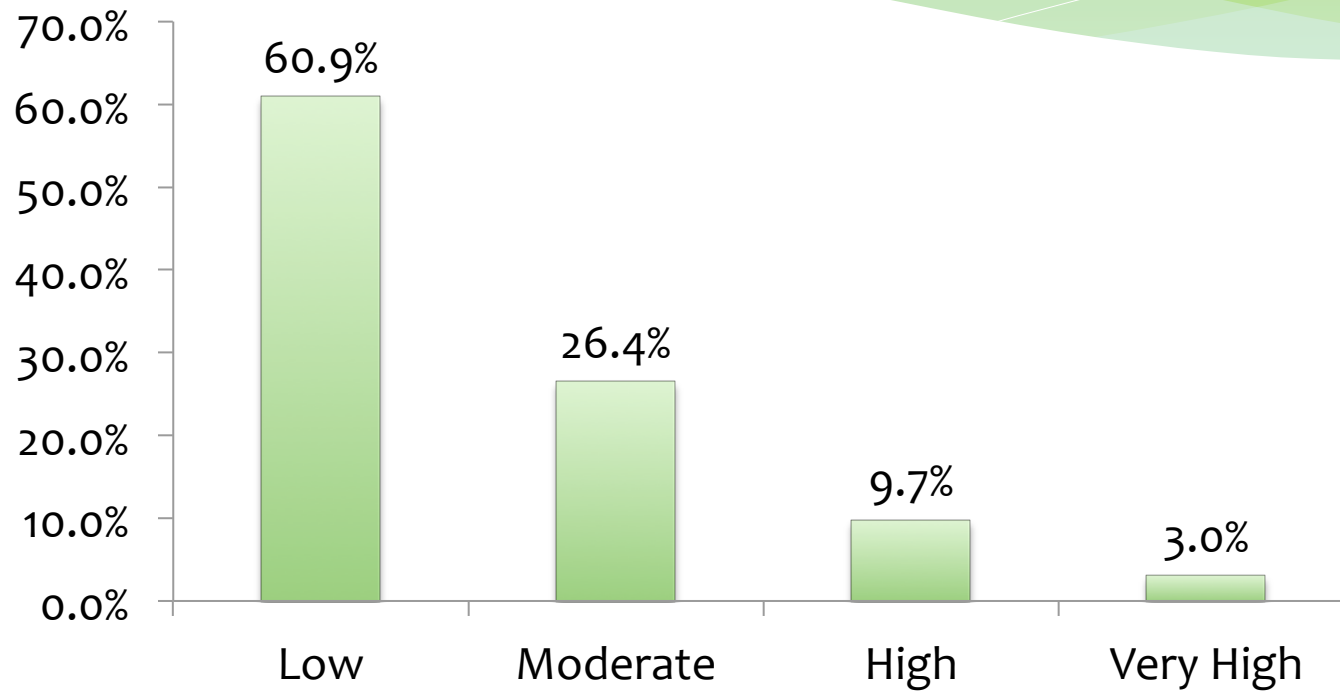


Sample Characteristic

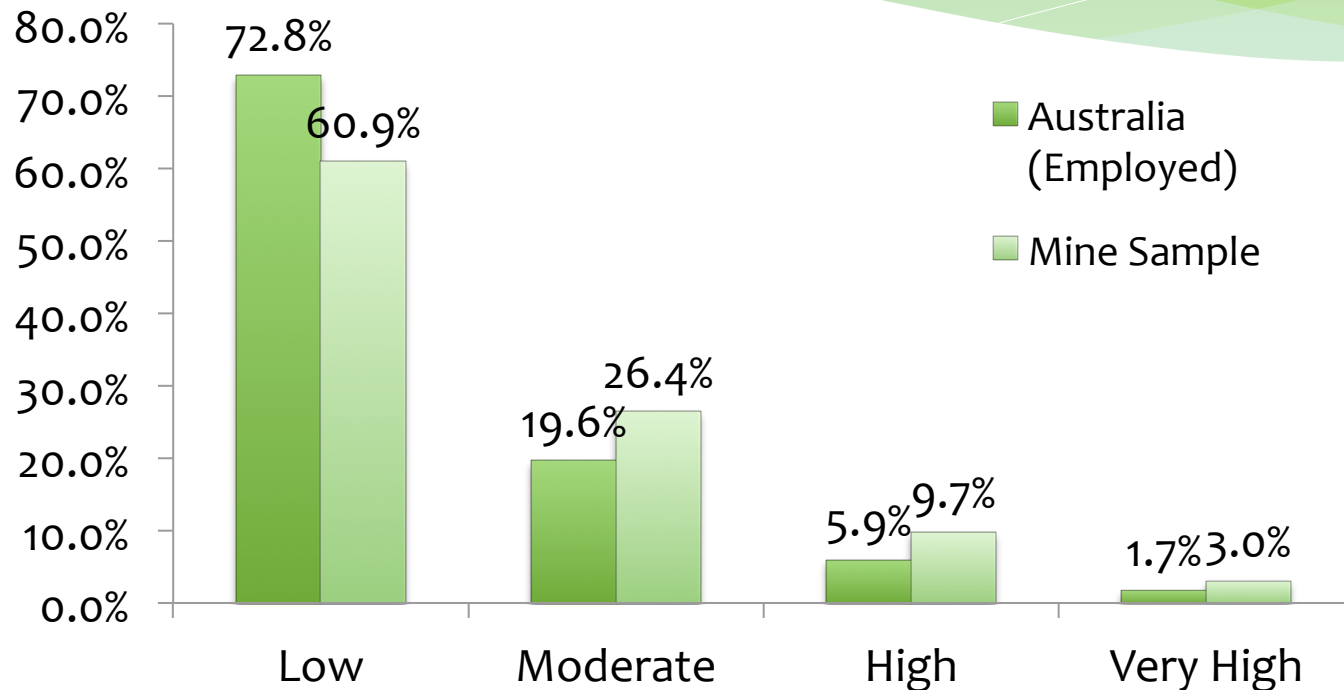
- * Mine type
 - Open cut – 773 (53.1)
 - Underground – 684 (46.9)
- * Shift
 - Rotating – 728 (50%)
 - Regular – 699 (48%)
- * Shift Length
 - 9-12 hours – 761 (52 %)
 - More than 12 – 500 (34%)



Mental Health Symptoms



Mental Health Symptoms - Comparison with Australian employed (NSMHWB, 2007)



*Significant difference between mining sample and employed community sample for males and females

Personal and social characteristics

- * Having previous diagnosis of
 - * Depression
 - * Anxiety
 - * Drug and/or alcohol problems
- * Having high levels of recent alcohol use;
- * Having fewer social connections.



Work and employment characteristics

- * Level of overall personal “satisfaction with work”
- * Financial concerns
 - * (pay is main reason they work in coal; financial commitments that mean they have to continue to work in coal; and prefer to work in another job but can’t afford to leave because of financial commitments)
- * Job insecurity
 - * (concerned about losing their job)

Work and employment characteristics associated with psychological distress

- * Factors not associated with increased levels of psychological distress
 - * type of mine (underground/open cut)
 - * whether participants reported as FIFO/DIDO or local



Alcohol Related problems

	Male % (n)		Female % (n)		Total % (n)	
AUDIT Score						
No known risk (0-7)	54.3 (666)		83.0 (146)		57.9 (812)	
Risky or hazardous (8-14)	35.0 (429)		14.2 (25)		32.4 (454)	
High risk or harmful (15-18)	6.0 (73)		1.7 (3)		5.4 (76)	
High risk, dependence likely (19-40)	4.7 (58)		1.1 (2)		4.3 (60)	
Total	100 (1226)		100 (176)		100 (1402)	

Alcohol Related problems

- * Comparison with ADF data (2011)
 - Male dominated
 - long working hours
 - shift work
 - work at distance from home and support networks

McFarlane AC, Hodson SE, Van Hoof M, Davies C. *Mental Health in the Australian Defence Force: 2010 ADF Mental Health Prevalence and Wellbeing Study*. Canberra: Department of Defence;2011

AUDIT Score	Male % (n)		Female % (n)		Total % (n)	
	Coal Sample	ADF	Coal Sample	ADF	Coal Sample	ADF
No known risk (0-7)	54.3 (666)	71.9	83.0 (146)	71.9	57.9 (812)	73.6
Risky or hazardous (8-14)	35.0 (429)	24.1	14.2 (25)	24.1	32.4 (454)	22.7
High risk or harmful (15-18)	6.0 (73)	2.5	1.7 (3)	2.5	5.4 (76)	2.3
High risk, dependence likely (19-40)	4.7 (58)	1.5	1.1 (2)	1.5	4.3 (60)	1.4
Total	100 (1226)	100	100 (176)	100	100 (1402)	100

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Personal and social characteristics associated with alcohol related problems

- * Being male
- * Having a previous diagnosis of drug and/or alcohol problems
- * Being a daily smoker
- * Reporting higher mental health symptoms
- * Reporting use of illicit drugs (marijuana, synthetic cannabis, ecstasy, cocaine or amphetamines)



Workplace and employment characteristics associated with alcohol related problems

- * Financial concerns
 - * (pay is main reason they work in coal; financial commitments that mean they have to continue to work in coal; and prefer to work in another job but can't afford to leave because of financial commitments)
- * Working in underground mining



Knowledge about mental health and attitudes to available help

- * 85% correctly identified person experiencing depression
- * Support
 - informal or non-professional sources of support most useful
 - 93.6% “talking to someone trustworthy”
 - 90.7% “talking to friends and family”
 - 92.6% talking with GP as helpful
 - 61.5% speaking with a supervisor



Attitudes to mental health problems (stigma)

	K10 Score	Strongly disagree or disagree	Unsure	Strongly agree or agree
Treated differently by their friends	Low	48.9%	23.7%	27.4%
	High	34.4%	26.2%	39.4%
Treated differently by their colleagues	Low	39.0%	25.7%	35.3%
	High	21.9%	30.1%	48% ←
Treated poorly in this workplace	Low	52.7%	29.2%	18.1%
	High	24.6%	35.0%	40.4% ←

Response to mental health problems – Consultation about own mental health problems

K10 Rating	GP	Psychologist	Psychiatrist	Friend/Family
Low (10-15)	12.6%	2.4%	1.5%	31.9%
Moderate (16-21)	22.4%	7.9%	2.7%	50.9%
High (22-29)	38.8%	19.4%	8.7%	58.3%
Very High (30-50)	55.8% ←	37.2%	14.0%	67.4%

Impact

- * As psychological distress increases - significant increase in reported absenteeism and presenteeism
- * Annual lost wages due to absenteeism and presenteeism due to psychological distress
 - just under \$5.0 million per year
 - loss greater for underground mines - higher number of lost hours among Machinery Operators and Drivers



Summary

- * Significant levels of mental health-related symptoms and alcohol use
 - * higher than comparable populations
- * Linked to combination of personal, social and workplace and employment factors
- * Main workplace factors are amenable to change and workplace interventions
- * Targets for intervention:
 - * promote workplace mental health support
 - * reduce stigma: peers and workplace
 - * Improve access to professional advice

Implications - Costing

- * Significant costs associated with mental health problems
- * Potential return on investment for addressing mental health



Summary

- * Sample characteristics: breadth, diversity
- * High response rate in most mines: acceptability to workforce
- * High engagement of industry
- * Examined a broad set of factors: personal, social, workplace
- * Examined cost impacts
- * Provides baseline for intervention evaluation

Caution!

- * Limitations
 - * Coal industry only
 - * Localities not fully representative of diversity of mining industry across Australia (eg types, localities, remoteness)
 - * Variable response rate
 - * Caution regarding comparisons with other populations
 - * Measures assess symptoms - can infer likelihood of mental health disorders but not a clinical assessment

Progress and next steps?

- * Program in 4 mines completed
- * Follow-up data collection underway
 - 3 mines completed
 - Remaining being organised
 - Assessment of intervention effect on completion of follow-up data collection
- MCA sponsored extension to other sectors and locations: SA, WA





- * What are the current workplace programs?
- * Assess feasibility and outcomes of a workplace mental health program in coal mining industry
- * Partner with “Mates in Construction”





* “Mates In Construction”

- * Suicide Australia LIFE Awards for Best Suicide Prevention Program 2009/10/11/12
- * 2012 National Safety Council of Australia Best Health and Wellbeing Program and Best Safety Initiative





Mates in Mining



- * General Awareness Training (GAT) & Life Skills Tool Box (820)
- * Connectors (Peer Support network) (108)
- * ASSIST Workers: Applied Suicide Interventions Skills Training (ASIST)
- * Case management and field officers
- * Supervisor and Leader Training (120 to date)
- * 24/7 Help Line



- * Supervisor and Leader Training (120 to date)
- * Best-practice organisational approaches (policy review)
- * Communication strategy





Alcohol Related problems

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What does this mean?

15. 12-MONTH MENTAL DISORDERS (a), by Level of psychological distress (b)

