



SUICIDE IN THE CONSTRUCTION INDUSTRY:

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INTRODUCTION

Around the world, suicide rates among those employed in blue collar occupations such as construction are higher than those in other occupational groups (Milner *et al.* 2013). Previous Australian research has also identified construction workers as being particularly at risk (Heller *et al.* 2007, Roberts *et al.* 2013, Gullestrup *et al.* 2011, Milner *et al.* 2014).

This report was commissioned to assess recent trends in suicide among construction workers across Australian states and territories, and to examine whether suicide rates among construction workers remains higher than other occupational groups.

METHODOLOGY

Study design and data sets

The project used a retrospective mortality design. It drew on the National Coroners Information System (NCIS). NCIS is a national internet-based data storage and retrieval system used by coroners, government agencies, and researchers to identify cases for death investigation and to monitor external causes of death in Australia. NCIS provides basic demographic information, as well as employment status and occupation at the time of death, collected from coronial files.

The quality and completeness of NCIS data is variable between cases, particularly for the early years of the dataset, and suicide may be under-reported due to differences between coroners and states (Daking et al. 2007, De Leo et al. 2010). In addition, there is a significant lag-time in reporting of deaths in NCIS due to the lengthy coronial process, meaning that cases in more recent years are under-reported. Nevertheless, NCIS offers the best available information on suicide mortality in Australia and is used as the basis for compiling the official death statistics. In this study, we examined suicide over the period 2001 to 2015.

Population estimates were obtained from the Australian Bureau of Statistics (ABS) using the 2006 census data (the mid-point of the study) by occupation, state, year, age and sex (ABS 2006). Because the construction industry has changed substantially over time, population numbers were adjusted using the quarterly released Labour Force data (ABS 2017). The Australian standard population (2001) from ABS was used to calculate age-standardised rates (ABS 2015).

Ascertainment of occupational group

Occupational information for suicide cases was coded according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to the four-digit level. Those cases described as belonging to the construction industry can be seen in Appendix 1. All other employed suicides were described as being as non-construction worker.

ANALYSIS

Descriptive analysis and age-standardised suicide rates

Comparing rates of suicide in construction related occupations to rates in the general population is problematic given the latter includes persons who are unemployed or 'not in the labour force' (retired, not working due to sickness or caring responsibilities), which would include an overrepresentation of mentally ill persons. These people are likely to have never entered (or prematurely dropped out of) the labour force due to the "healthy worker" effect (Agerbo 2005). Hence, the reference category for comparison in this study is "all other occupations". We thus confined the study to the working population.

Male and female suicide rates per 100,000 person-years were calculated for construction workers and other occupations using population census data, and adjusted using quarterly labour force data on the construction industry (catalogue number 6291.0.55.003). These rates were age-standardised to the Australian standard population (2001). Rates of suicide were presented graphically to allow an assessment of trends over time. We conducted a trend test across the years 2001 to 2015 using

Poisson regression to assess whether suicide rates have increased or decreased over time.

Last, we calculated incident-rate ratios (IRRs) of suicide among construction workers compared to non-construction workers by state and the time periods 2001-2003, 2004-2006, 2007-2009, 2010-2012, 2013-15.

RESULTS

Figures 1 to 8 compare the age distribution of suicide workers from construction industry in each Australian state to the other employed population in Australia. It shows that the number of suicide amongst construction workers is much higher in early employment years (15-34 years), as compared to

other occupation and it gradually declines after the age of 45. The findings was similarly noted across all states of Australia.

Figure 1. Suicide among ACT construction workers vs employed Men in Australia

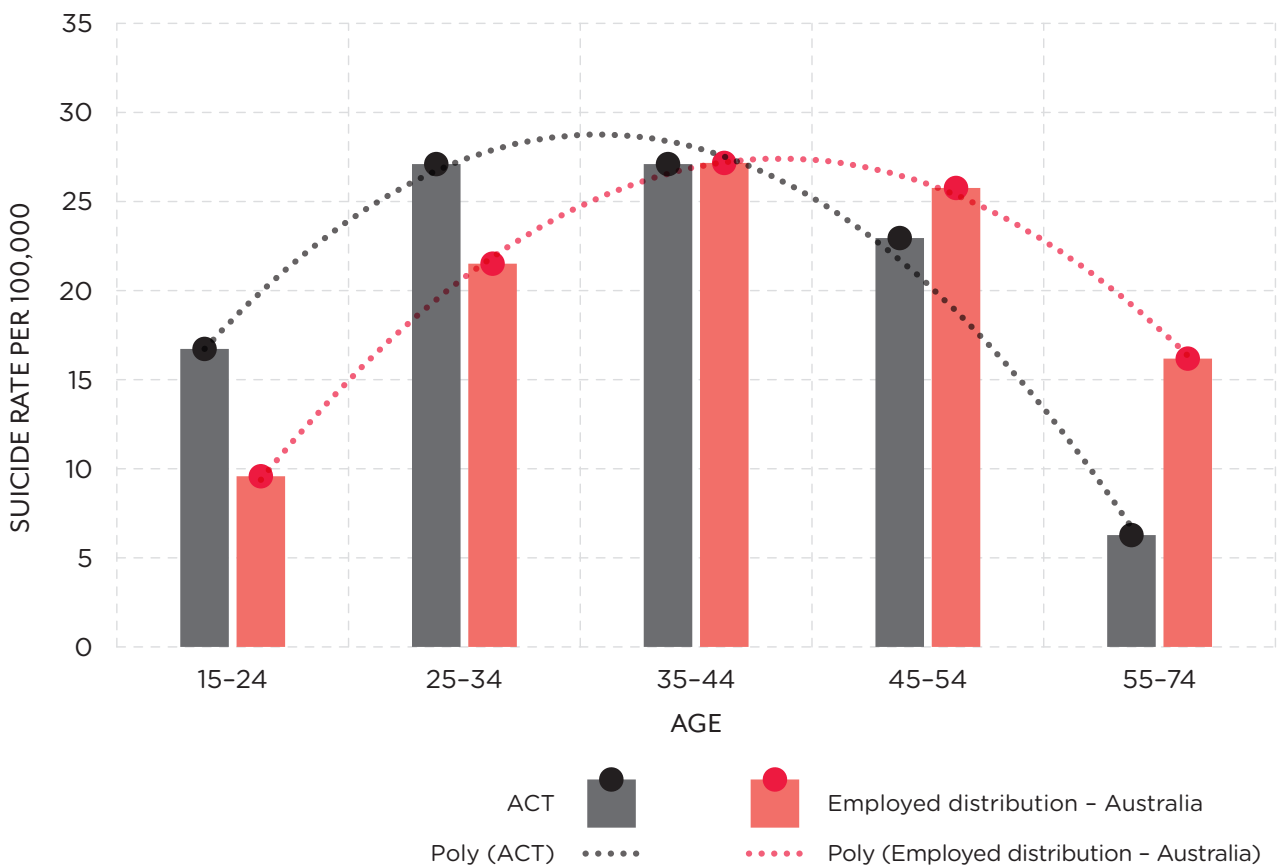


Figure 2. Suicide among QLD construction workers vs employed Men in Australia

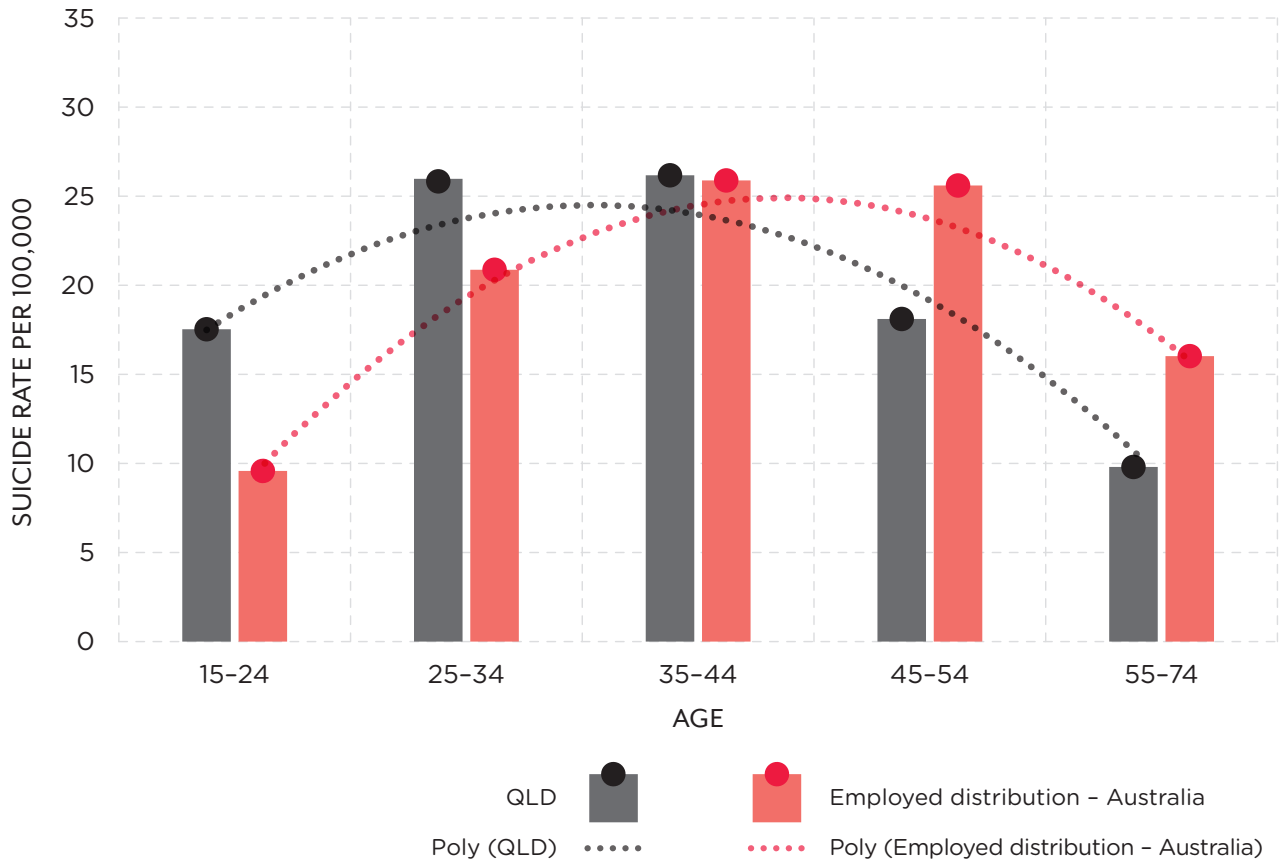


Figure 3. Suicide among SA construction workers vs employed Men in Australia

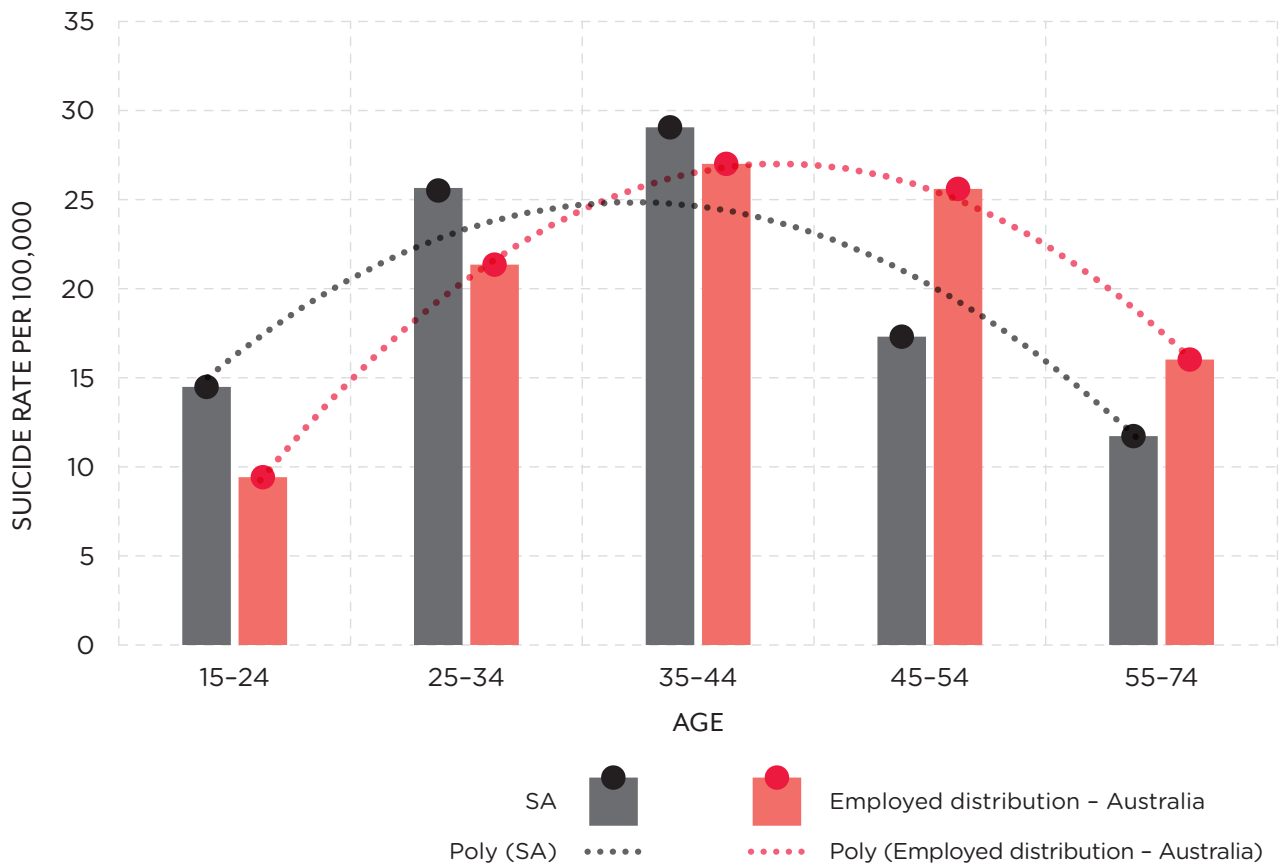


Figure 4. Suicide among NSW construction workers vs employed Men in Australia

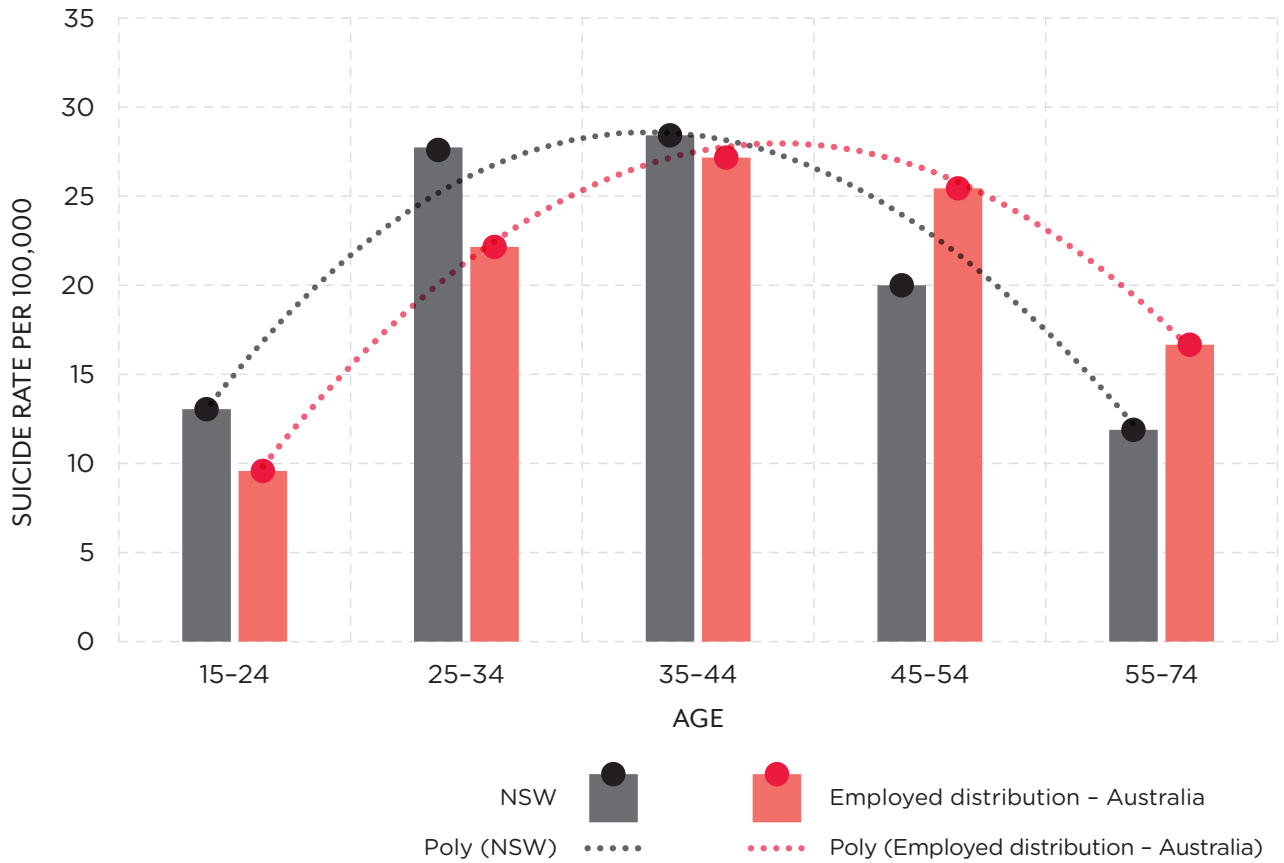


Figure 5. Suicide among TAS construction workers vs employed Men in Australia

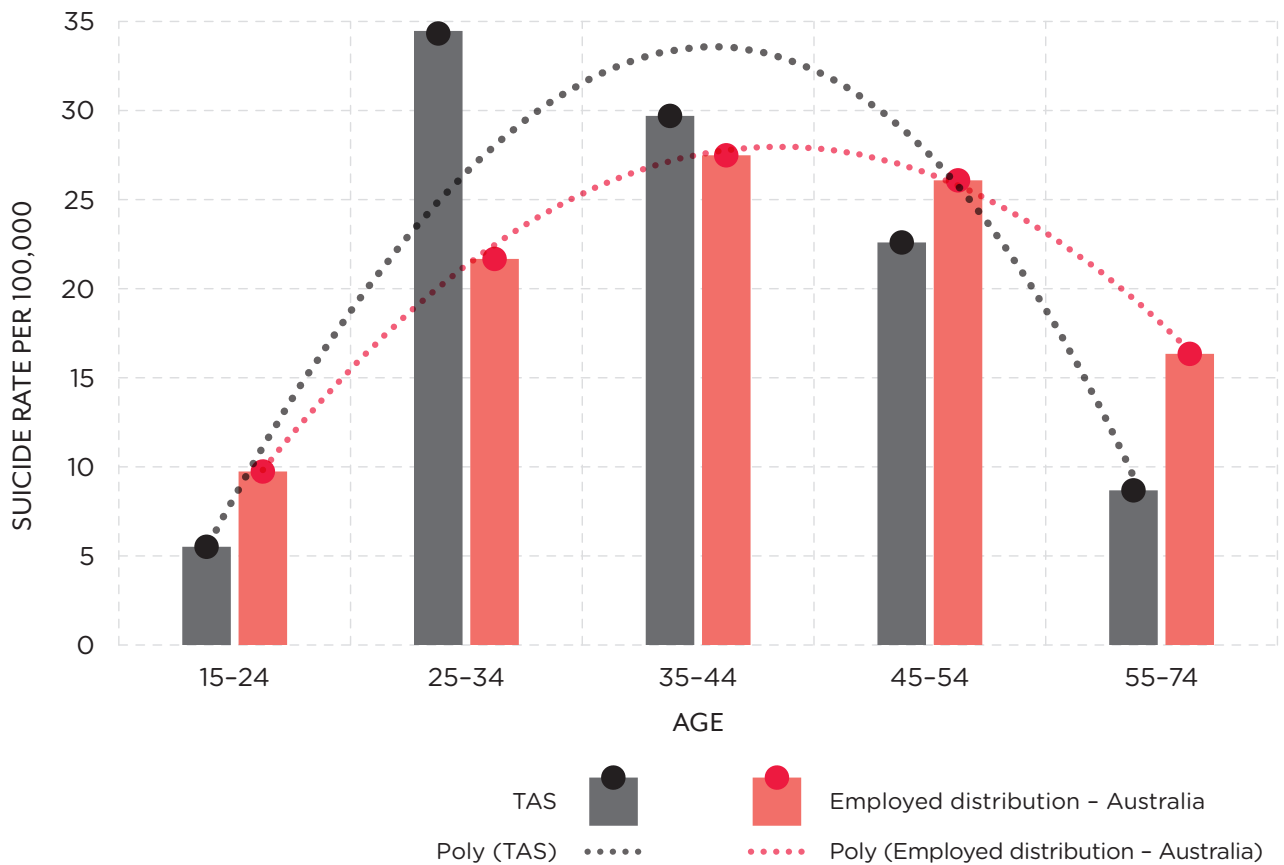


Figure 6. Suicide among VIC construction workers vs employed Men in Australia

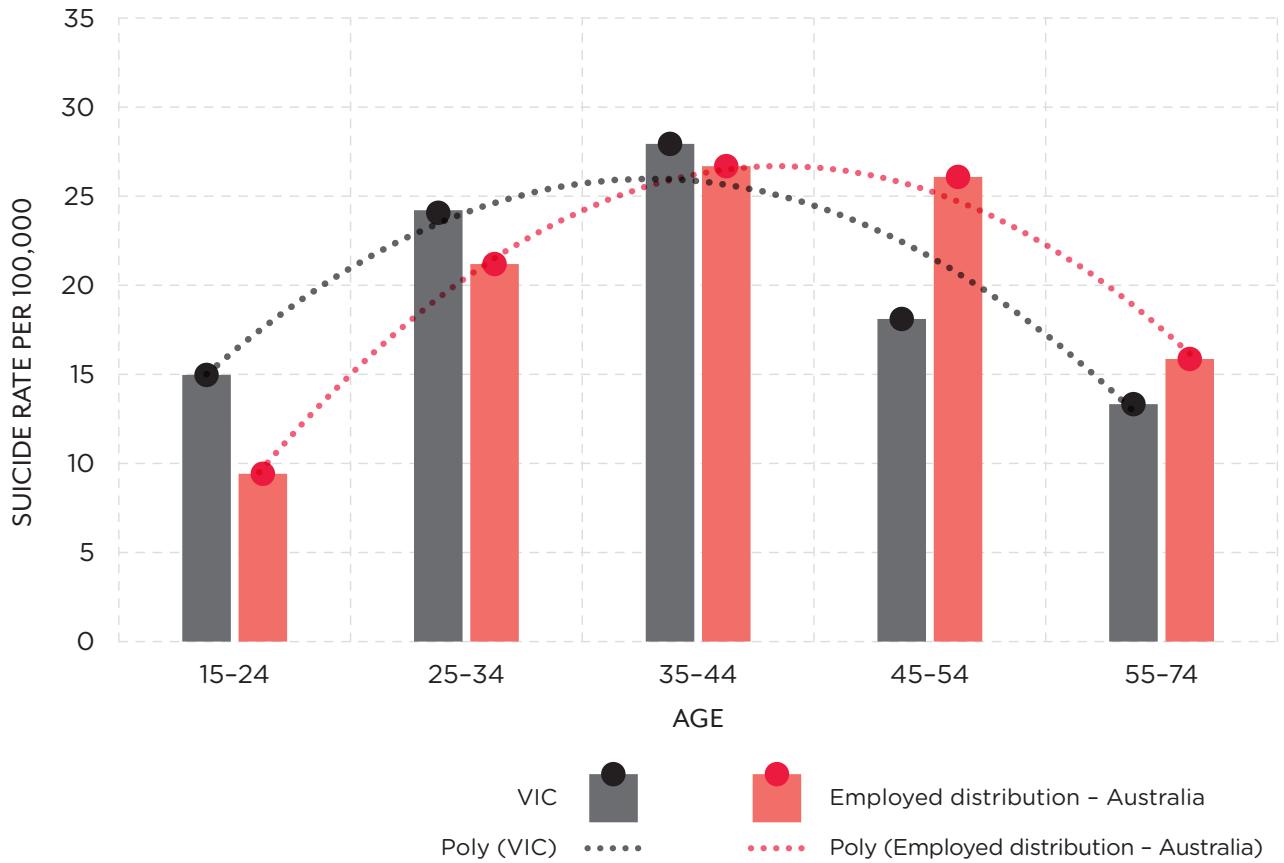


Figure 7. Suicide among WA construction workers vs employed Men in Australia

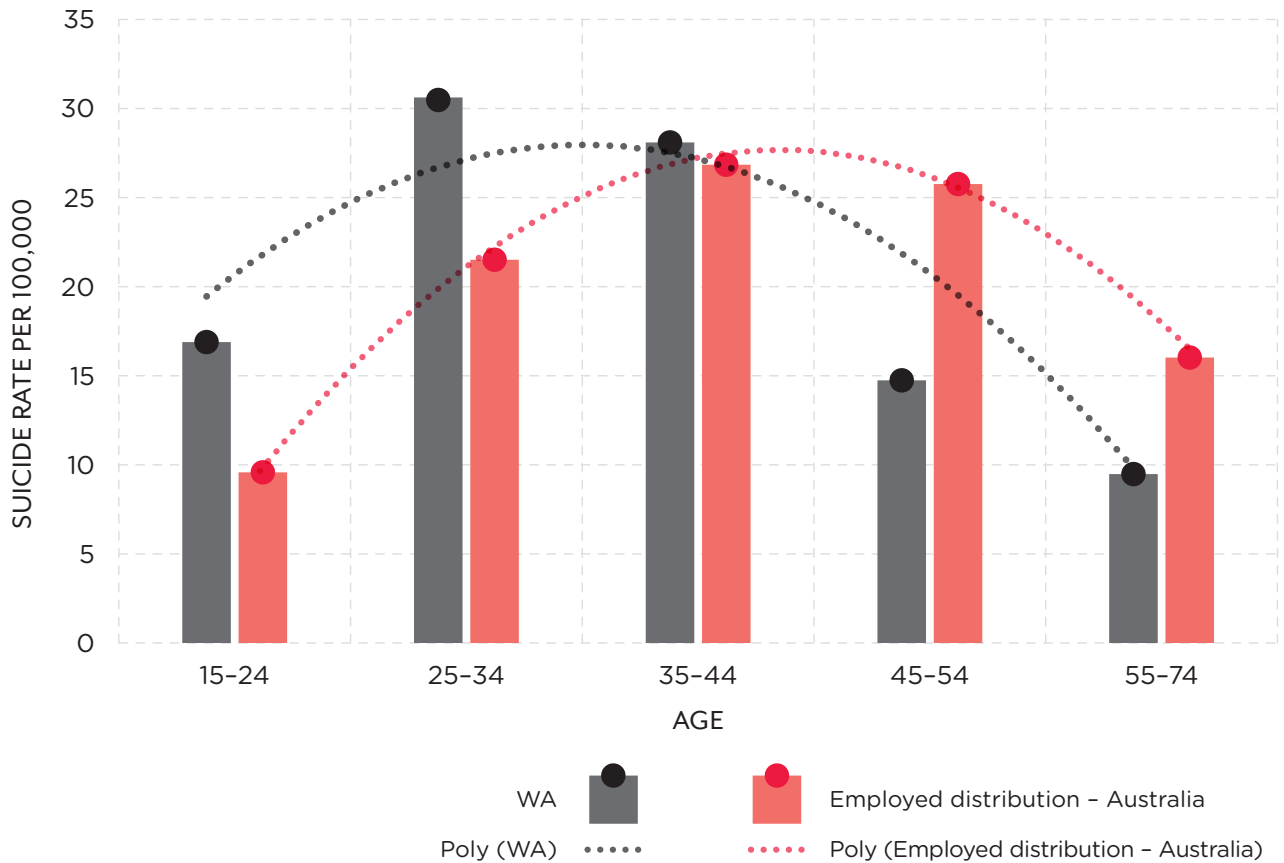


Figure 8. Suicide among NT construction workers vs employed Men in Australia

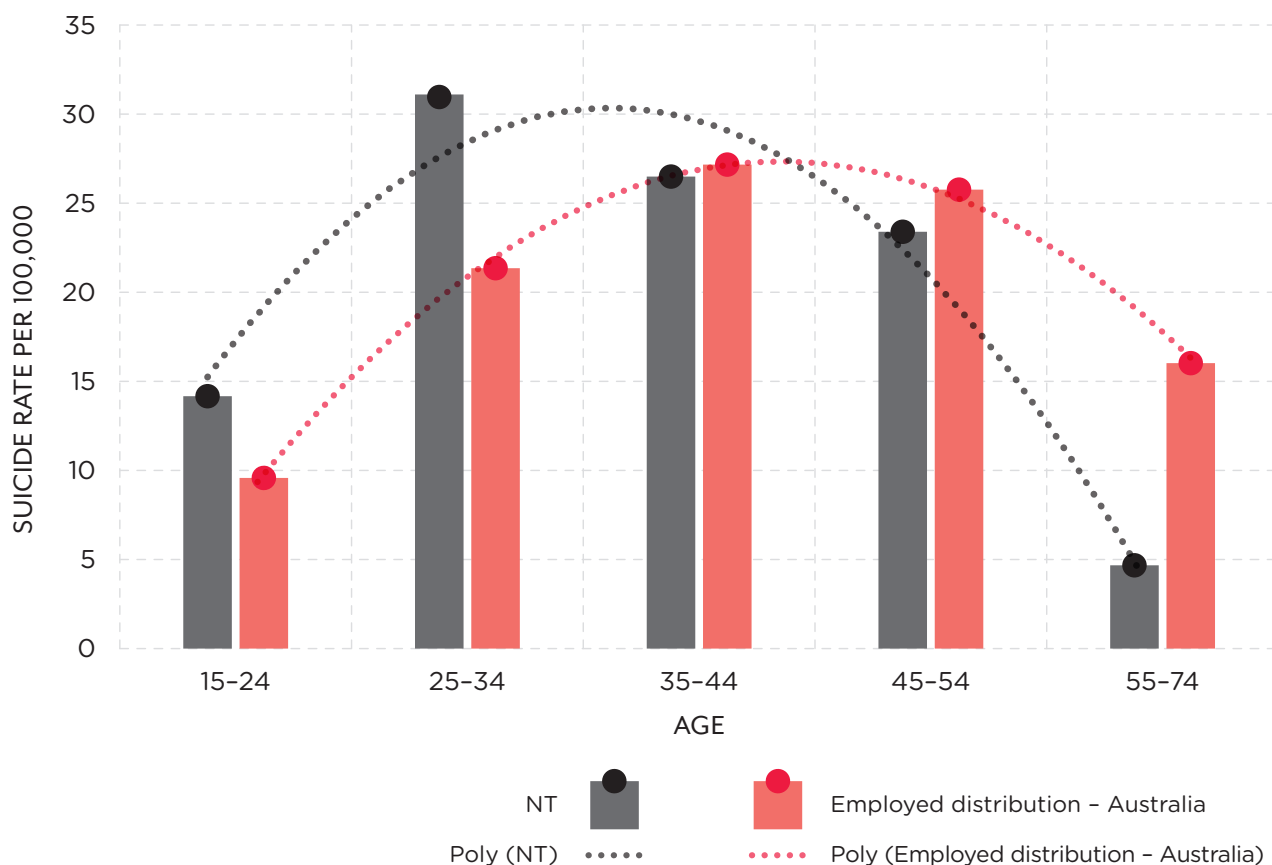


Table 1 shows the total number of deaths among male and female construction workers by state. During 2001 to 2015, there were 13,402 total number of suicides amongst construction workers in Australia. The proportion of females are much lower across all

states. This is partly because there are relatively fewer females employed in construction as men, but is also because females are less likely to die by suicide than men.

Table 1. Numbers of suicides among construction workers, by state and territory and nation-wide, 2001 to 2015.

	AGE-GROUP	MALE (N)	FEMALE (N)	TOTAL
ACT	15-24	8	0	8
	25-34	13	0	13
	35-44	13	0	13
	45-54	11	0	11
	55-74	3	0	3
	<i>State Total</i>		48	0
NSW	15-24	100	1	101
	25-34	219	1	220
	35-44	224	5	229
	45-54	157	3	160
	55-74	90	3	93
	<i>State Total</i>		790	13

Table 1. Numbers of suicides among construction workers, by state and territory and nation-wide, 2001 to 2015 (cont).

	AGE-GROUP	MALE (N)	FEMALE (N)	TOTAL
NT	15-24	9	0	9
	25-34	20	0	20
	35-44	17	0	17
	45-54	15	0	15
	55-74	3	0	3
	<i>State Total</i>	64	0	64
QLD	15-24	109	1	110
	25-34	168	1	169
	35-44	173	2	175
	45-54	119	1	120
	55-74	62	2	64
	<i>State Total</i>	631	7	638
SA	15-24	26	0	26
	25-34	46	1	47
	35-44	52	1	53
	45-54	31	1	32
	55-74	21	1	22
	<i>State Total</i>	176	4	180
TAS	15-24	5	0	5
	25-34	32	0	32
	35-44	28	0	28
	45-54	21	0	21
	55-74	8	0	8
	<i>State Total</i>	94	0	94
VIC	15-24	103	2	105
	25-34	171	1	172
	35-44	197	1	198
	45-54	128	6	134
	55-74	94	1	95
	<i>State Total</i>	693	11	704
WA	15-24	78	0	78
	25-34	142	4	146
	35-44	130	1	131
	45-54	68	2	70
	55-74	44	0	44
	<i>State total</i>	462	7	469

Table 2 shows the total age-adjusted suicide rates per 100,000 persons, with 95% confidence intervals for construction versus other workers. The highest suicide rates for male construction workers occurred in the NT, TAS, ACT. It is important to note

that these three states has lowest number of suicide cases (see Table 1), which sometime overestimated the suicide rates. The lowest were in SA, NSW and QLD. Annual age-adjusted suicide rates for males by state can be seen in Appendix 2.

Table 2. Numbers of suicides and age-adjusted suicide rates (per 100,000) among male construction workers, by state and territory and nation-wide, 2001 to 2015.

		NUMBER OF SUICIDES	AGE-ADJUSTED SUICIDE RATE	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
ACT	Construction	48	32.8	23.6	42.7
	Non-construction	193	12.7	10.7	14.8
NSW	Construction	803	21.7	20	23
	Non-construction	3041	12.7	12.1	13.1
NT	Construction	64	8.3	35.2	58.2
	Non-construction	192	28.5	23.5	32.1
QLD	Construction	638	24.9	22.7	26.6
	Non-construction	2094	14.2	13.6	15
SA	Construction	180	20.3	17.3	23.3
	Non-construction	676	11.8	10.8	12.8
TAS	Construction	94	34.3	27.7	41.8
	Non-construction	335	19.2	16.8	21.5
VIC	Construction	704	25.1	23.2	27
	Non-construction	2489	13.1	12.5	13.6
WA	Construction	469	31.7	28.3	34
	Non-construction	1427	18.2	17.2	19.4
Australia	Construction	3000	24.2	23.2	24.9
	Non-construction	10402	13.9	13.6	14.2

Figures 9 to 17 compared the age-standardised suicide rates between construction and non-construction workers during 2005 to 2015. Between the years 2005 and 2015, the suicide rates have been slowly declined in Australia (Figure 17). In NSW (Figure 9) there are fluctuation in suicide rates, which has been at its lowest between the years 2007 to 2009 (18.3 to 15.4), and then increased after 2012. The same happened in QLD between 2012 to 2014, where suicide rates were noted at its lowest (17.9 to 15.3 per 100 000). In latest three years, i.e. between 2012 to 2015, suicide rates were declined by 61% in Victoria and 40% in WA.

Suicide rates in the ACT (Figure 6), NT (Figure 7), and TAS (Figure 8) have been averaged over 3 or 4 year periods due to small numbers of deaths. As can be seen, suicide among construction workers have grown in the ACT and in NT, and declined in TAS. However, results should be interpreted with caution due to the small numbers of deaths. For this reason also, Poisson regression trend tests were not conducted.

Across Australia, the overall rates in the construction industry is higher than the non-construction industry (Figure 9).

Figure 9. Age standardised suicide rates, males, construction and non-construction, NSW, 2005 to 2015



Figure 10. Age standardised suicide rates, males, construction and non-construction, SA, 2005 to 2015



Figure 11. Age standardised suicide rates, males, construction and non-construction, VIC, 2005 to 2015



Figure 12. Age standardised suicide rates, males, construction and non-construction, WA, 2005 to 2015



Figure 13. Age standardised suicide rates, males, construction and non-construction, QLD, 2005 to 2015



Figure 14. Age standardised suicide rates, males, construction and non-construction, ACT, 2004 to 2015

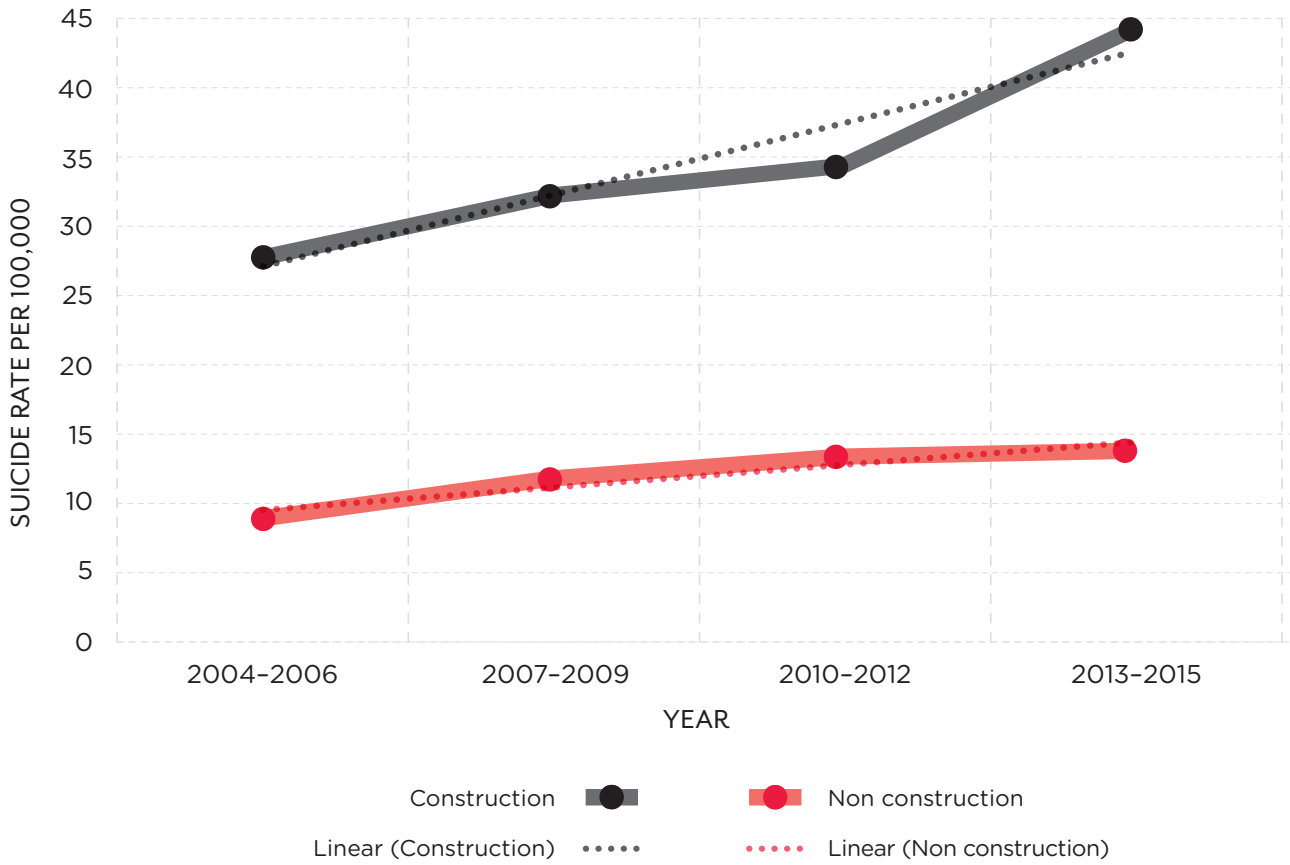


Figure 15. Age standardised suicide rates, males, construction and non-construction, NT, 2004 to 2015

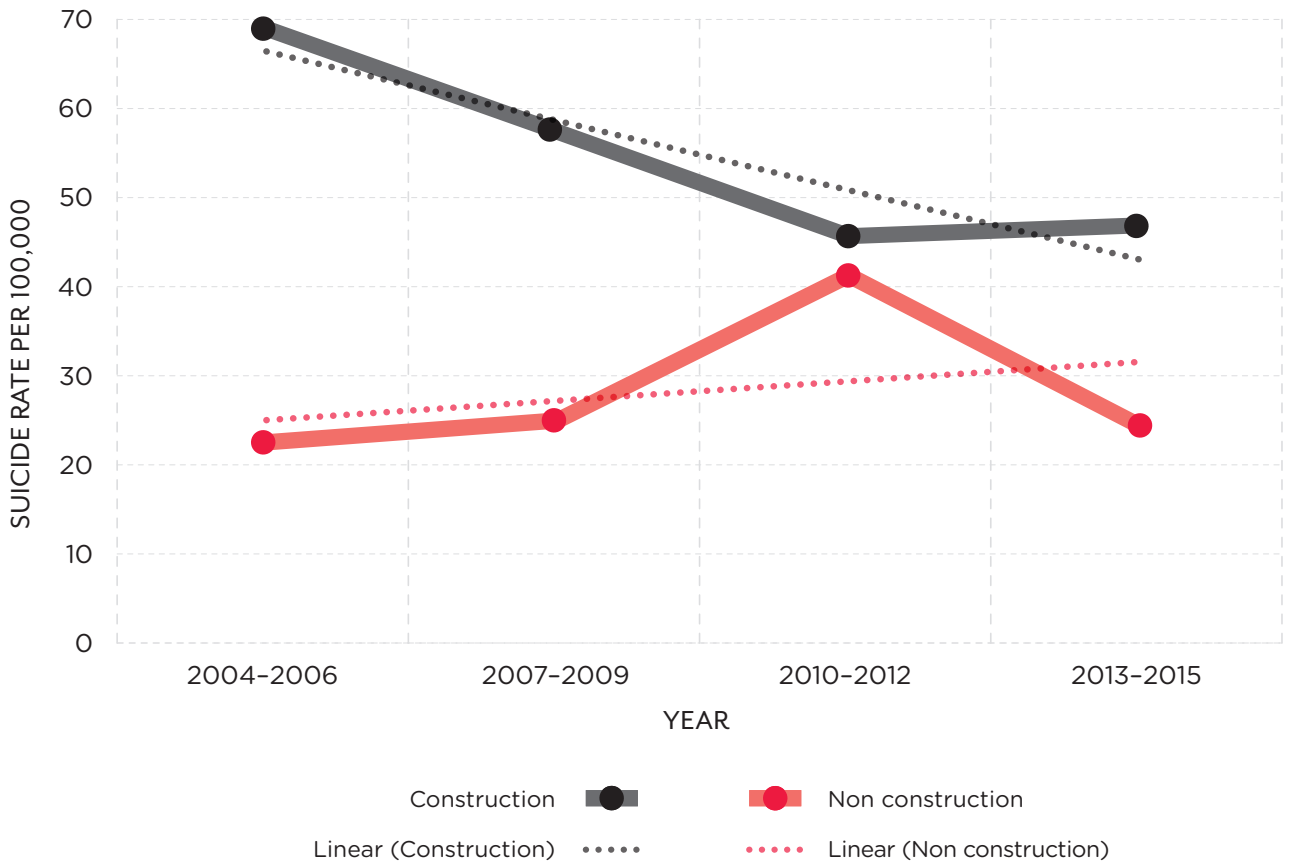


Figure 16. Age standardised suicide rates, males, construction and non-construction, TAS, 2004 to 2015

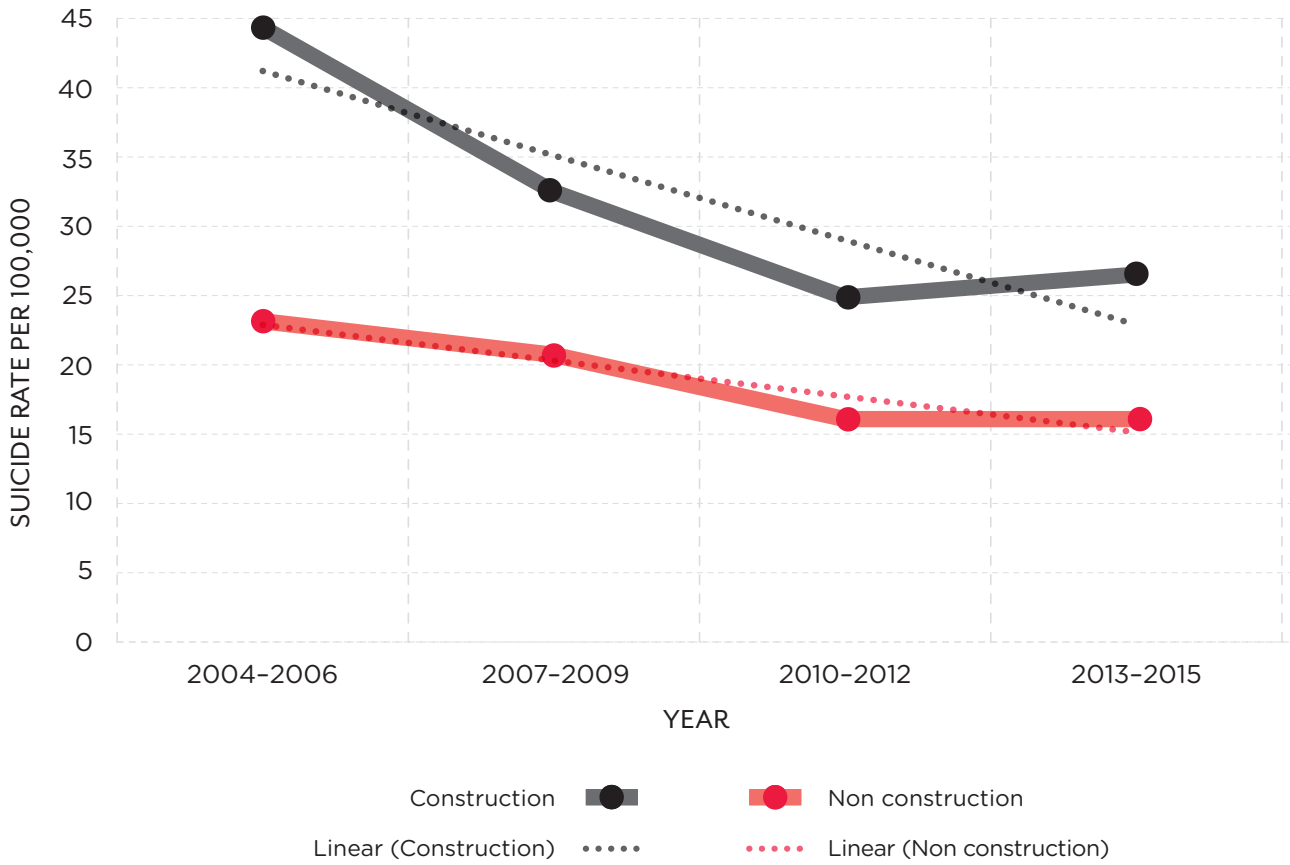
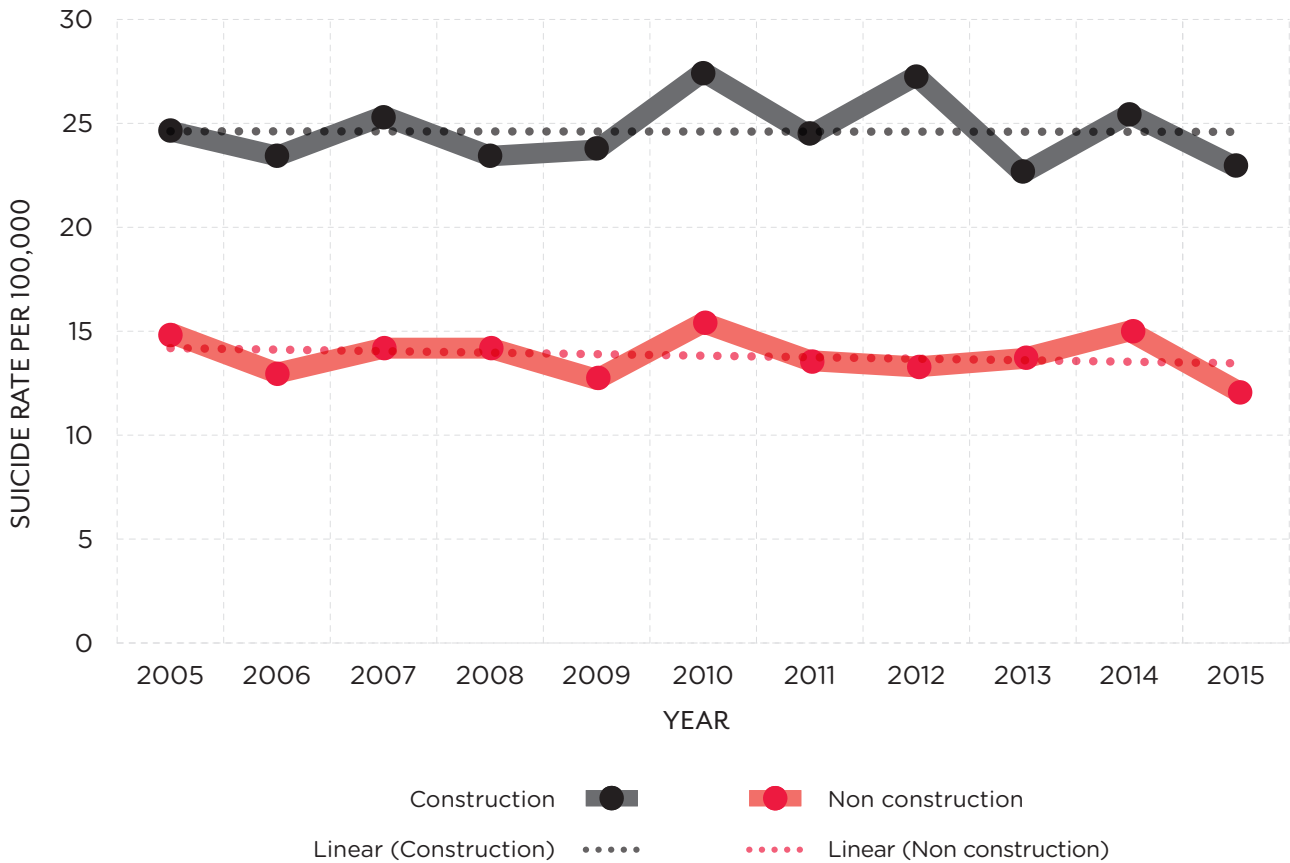


Figure 17. Age standardised suicide rates, males, construction and non-construction, Australia, 2005 to 2015



The incident-rate ratios (IRR) of suicide for males in the construction industry compared to males in other occupations by state can be seen in Table 3. Across Australia and all time periods, construction workers have significantly higher suicide

rates than non-construction workers. Having said that, the gap between construction vs non-construction is being gradually reducing in QLD, VIC, SA, and WA.

Table 3: Incident rate-ratios (IRRs) of those employed as in construction and non-construction work, males, 2001 to 2015, weighted for age using the Mantel Haenszel method.

		IRRs	LOWER CL	UPPER CL	
ACT	2001–2003	Construction	1.33	0.34	3.69
		Non-construction	1.00		
	2004–2006	Construction	3.26	1.25	7.67
		Non-construction	1.00		
	2007–2009	Construction	2.85	1.28	5.91
		Non-construction	1.00		
	2010–2012	Construction	2.25	0.99	4.69
		Non-construction	1.00		
	2013–2015	Construction	3.24	1.63	6.17
		Non-construction	1.00		
NSW	2001–2003	Construction	1.83	1.53	2.19
		Non-construction	1.00		
	2004–2006	Construction	1.76	1.47	2.11
		Non-construction	1.00		
	2007–2009	Construction	1.33	1.08	1.63
		Non-construction	1.00		
	2010–2012	Construction	1.74	1.45	2.08
		Non-construction	1.00		
	2013–2015	Construction	1.91	1.60	2.27
		Non-construction	1.00		

Table 3. Incident rate-ratios (IRRs) of those employed as in construction and non-construction work, males, 2001 to 2015, weighted for age using the Mantel Haenszel method (cont).

		IRRs	LOWER CL	UPPER CL	
NT	2001-2003	Construction	0.67	0.17	1.86
		Non-construction	1.00		
	2004-2006	Construction	3.04	1.49	5.99
		Non-construction	1.00		
	2007-2009	Construction	2.24	1.11	4.34
		Non-construction	1.00		
	2010-2012	Construction	1.13	0.57	2.09
		Non-construction	1.00		
	2013-2015	Construction	2.04	1.03	3.93
		Non-construction	1.00		
QLD	2001-2003	Construction	2.95	2.38	3.64
		Non-construction	1.00		
	2004-2006	Construction	1.95	1.57	2.41
		Non-construction	1.00		
	2007-2009	Construction	1.78	1.45	2.18
		Non-construction	1.00		
	2010-2012	Construction	1.51	1.24	1.83
		Non-construction	1.00		
	2013-2015	Construction	1.22	0.96	1.54
		Non-construction	1.00		
SA	2001-2003	Construction	2.21	1.46	3.26
		Non-construction	1.00		
	2004-2006	Construction	1.78	1.16	2.67
		Non-construction	1.00		
	2007-2009	Construction	1.59	1.07	2.33
		Non-construction	1.00		
	2010-2012	Construction	1.59	1.08	2.30
		Non-construction	1.00		
	2013-2015	Construction	1.55	1.01	2.33
		Non-construction	1.00		
2013-2015	Construction	1.58	0.83	2.86	
	Non-construction	1.00			

Table 3: Incident rate-ratios (IRRs) of those employed as in construction and non-construction work, males, 2001 to 2015, weighted for age using the Mantel Haenszel method (cont).

		IRRs	LOWER CL	UPPER CL	
TAS	2001-2003	Construction	3.05	1.70	5.26
		Non-construction	1.00		
	2004-2006	Construction	1.89	1.12	3.10
		Non-construction	1.00		
	2007-2009	Construction	1.50	0.85	2.55
		Non-construction	1.00		
	2010-2012	Construction	1.50	0.79	2.70
		Non-construction	1.00		
	2013-2015	Construction	1.58	0.83	2.86
		Non-construction	1.00		
VIC	2001-2003	Construction	2.57	2.11	3.11
		Non-construction	1.00		
	2004-2006	Construction	2.25	1.88	2.69
		Non-construction	1.00		
	2007-2009	Construction	1.98	1.63	2.40
		Non-construction	1.00		
	2010-2012	Construction	1.90	1.54	2.33
		Non-construction	1.00		
	2013-2015	Construction	1.19	0.94	1.48
		Non-construction	1.00		
WA	2001-2003	Construction	2.58	1.97	3.34
		Non-construction	1.00		
	2004-2006	Construction	1.54	1.16	2.03
		Non-construction	1.00		
	2007-2009	Construction	1.63	1.26	2.08
		Non-construction	1.00		
	2010-2012	Construction	1.87	1.49	2.35
		Non-construction	1.00		
	2013-2015	Construction	1.42	1.11	1.80
		Non-construction	1.00		

Table 3: Incident rate-ratios (IRRs) of those employed as in construction and non-construction work, males, 2001 to 2015, weighted for age using the Mantel Haenszel method (cont).

		IRRs	LOWER CL	UPPER CL	
Australia	2001-2003	Construction	2.31	2.09	2.54
		Non-construction	1.00		
	2004-2006	Construction	1.93	1.76	2.12
		Non-construction	1.00		
	2007-2009	Construction	1.71	1.55	1.88
		Non-construction	1.00		
	2010-2012	Construction	1.74	1.59	1.91
		Non-construction	1.00		
	2013-2015	Construction	1.53	1.39	1.69
		Non-construction	1.00		

Figure 18. Relative risk of suicide in different years in ACT



Figure 19. Relative risk of suicide in different years in NSW



Figure 20. Relative risk of suicide in different years in NT



Figure 21. Relative risk of suicide in different years in QLD



Figure 22. Relative risk of suicide in different years in SA



Figure 23. Relative risk of suicide in different years in TAS



Figure 24. Relative risk of suicide in different years in WA



Figure 25. Relative risk of suicide in different years in VIC



CONCLUSIONS

These results suggest suicide among construction workers remains elevated compared to other occupational groups and should remain a target for suicide intervention and prevention.

The limitations of this report include the under reporting of suicide due to coronial delays and administrative factors. We would also acknowledge slight inaccuracies in the population data over time, which we attempted to adjust using the ABS industry data.

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APPENDIX 1. OCCUPATIONAL CODING

Occupational information for suicide cases was coded according to the Australian and New Zealand Standard Classification of

Occupations (ANZSCO) to the four-digit level. Those cases described as belonging to the construction industry included:

1331 Construction Managers

312 Building and Engineering Technicians

3121 Architectural, Building and Surveying Technicians

3122 Civil Engineering Draftspersons and Technicians

3123 Electrical Engineering Draftspersons and Technicians

3124 Electronic Engineering Draftspersons and Technicians

3125 Mechanical Engineering Draftspersons and Technicians

3126 Safety Inspectors

3129 Other Building and Engineering Technicians

33 Construction Trades Workers

331 Bricklayers, and Carpenters and Joiners

3311 Bricklayers and Stonemasons

3312 Carpenters and Joiners

332 Floor Finishers and Painting Trades Workers

3321 Floor Finishers

3322 Painting Trades Workers

333 Glaziers, Plasterers and Tilers

3331 Glaziers

3332 Plasterers

3333 Roof Tilers

3334 Wall and Floor Tilers

334 Plumbers

3341 Plumbers

34 Electrotechnology and Telecommunications Trades Workers

341 Electricians

3411 Electricians

342 Electronics and Telecommunications Trades Workers

3421 Airconditioning and Refrigeration Mechanics

3422 Electrical Distribution Trades Workers

3423 Electronics Trades Workers

3424 Telecommunications Trades Workers

712 Stationary Plant Operators

711 Machine Operators

82 Electrotechnology and Telecommunications Trades Workers

821 Construction and Mining Labourers

8211 Building and Plumbing Labourers

8212 Concreters

8213 Fencers

8214 Insulation and Home Improvement Installers

8215 Paving and Surfacing Labourers

8216 Railway Track Workers

8217 Structural Steel Construction Workers

8219 Other Construction and Mining Labourers

APPENDIX 2. AGE-ADJUSTED SUICIDE RATES

Appendix 2. Age-adjusted suicide rates among males employed in the construction industry, by state and year.

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
ACT	2001-2003	20.2	0.0	54.8
	2004-2006	28.2	0.1	56.3
	2007-2009	32.3	1.4	65.9
	2010-2012	34.5	2.2	70.3
	2013-2015	44.7	5.2	84.3
NSW	2001	29.3	21.6	36.9
	2002	22.8	16.3	29.3
	2003	24.2	17.8	30.6
	2004	22.5	16.6	28.4
	2005	22.5	16.5	28.6
	2006	22.0	16.2	27.8
	2007	18.3	13.0	23.7
	2008	14.5	9.9	19.1
	2009	15.4	10.4	20.3
	2010	24.9	18.7	31.1
	2011	17.6	12.3	22.8
	2012	22.4	16.6	28.2
	2013	21.0	15.1	26.9
	2014	23.3	17.6	29.0
	2015	24.3	18.4	30.1
NT	2001-2003	17.1	0.0	40.8
	2004-2006	66.1	11.0	123.0
	2007-2009	55.0	8.1	103.3
	2010-2012	43.8	8.1	82.0
	2013-2015	45.0	7.2	82.7

Appendix 2. Age-adjusted suicide rates among males employed in the construction industry, by state and year (cont).

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
QLD	2001	46.5	31.8	61.3
	2002	49.8	35.2	64.4
	2003	32.0	21.7	42.3
	2004	37.0	27.1	46.9
	2005	25.4	18.1	32.7
	2006	12.2	7.3	17.1
	2007	27.3	19.5	35.2
	2008	22.6	16.1	29.0
	2009	23.6	16.8	30.5
	2010	25.1	18.0	32.2
	2011	31.2	23.4	39.0
	2012	17.9	11.8	24.0
	2013	15.1	9.5	20.8
	2014	15.3	9.6	20.9
	2015	21.7	14.8	28.6
SA	2001	30.8	14.1	47.6
	2002	28.4	13.0	43.9
	2003	18.2	6.3	30.1
	2004	17.6	6.1	29.2
	2005	18.4	7.0	29.9
	2006	23.9	10.9	36.9
	2007	21.7	9.9	33.6
	2008	22.0	10.0	33.9
	2009	16.1	6.6	25.7
	2010	20.7	9.8	31.5
	2011	23.8	12.1	35.5
	2012	15.5	5.9	25.0
	2013	16.2	6.1	26.2
	2014	21.0	9.6	32.4
	2015	15.1	5.2	24.9

Appendix 2. Age-adjusted suicide rates among males employed in the construction industry, by state and year (cont)

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
TAS	2001-2003	60.3	16.3	105.6
	2004-2006	44.6	13.2	76.0
	2008-2009	32.6	7.8	57.6
	2010-2012	25.0	4.1	45.9
	2013-2015	26.7	4.2	49.2
VIC	2001	42.2	30.6	53.8
	2002	33.9	24.4	43.3
	2003	29.9	21.0	38.8
	2004	34.3	25.2	43.3
	2005	32.2	23.8	40.6
	2006	30.8	23.0	38.6
	2007	29.1	21.4	36.7
	2008	22.3	15.6	28.9
	2009	24.4	17.3	31.5
	2010	20.1	14.0	26.2
	2011	13.9	8.9	18.9
	2012	29.8	22.2	37.5
	2013	22.4	15.6	29.2
	2014	16.7	10.9	22.4
	2015	11.5	6.9	16.1

Appendix 2. Age-adjusted suicide rates among males employed in the construction industry, by state and year (cont)

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
WA	2001	60.8	41.1	80.5
	2002	39.4	22.8	55.9
	2003	31.4	18.2	44.5
	2004	26.3	14.4	38.2
	2005	27.1	16.4	37.8
	2006	24.7	14.9	34.5
	2007	28.5	18.2	38.8
	2008	28.3	18.6	38.1
	2009	29.0	18.7	39.3
	2010	31.8	21.3	42.3
	2011	30.2	20.3	40.2
	2012	39.9	28.3	51.6
	2013	23.0	14.1	31.9
	2014	38.7	27.3	50.1
	2015	23.9	15.1	32.7
Australia	2001	24.9	21.5	28.3
	2002	21.7	18.5	24.9
	2003	21.6	18.4	24.8
	2004	25.5	22.1	29.0
	2005	24.3	20.9	27.6
	2006	23.1	19.8	26.4
	2007	25.0	21.6	28.5
	2008	23.1	19.8	26.4
	2009	23.4	20.1	26.8
	2010	27.1	23.5	30.7
	2011	24.1	20.7	27.5
	2012	26.9	23.3	30.5
	2013	22.3	18.9	25.7
	2014	25.1	21.6	28.6
	2015	22.6	19.3	25.9

Appendix 2. Age-adjusted suicide rates among males employed in non-construction occupations, by state and year.

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
ACT	2001-2003	15.7	7.0	24.4
	2004-2006	8.9	2.3	15.4
	2007-2009	11.8	4.3	19.3
	2010-2012	13.4	5.6	21.2
	2013-2015	13.8	5.6	22.0
NSW	2001	13.7	11.7	15.7
	2002	14.9	12.8	17.0
	2003	14.0	12.0	16.1
	2004	12.8	10.8	14.7
	2005	14.8	12.7	16.9
	2006	11.0	9.2	12.9
	2007	13.7	11.7	15.7
	2008	12.6	10.6	14.5
	2009	9.9	8.2	11.6
	2010	13.2	11.2	15.2
	2011	11.2	9.4	13.1
	2012	12.5	10.6	14.5
	2013	10.4	8.7	12.2
	2014	13.2	11.2	15.2
	2015	11.4	9.6	13.3
NT	2001-2003	30.5	13.3	47.7
	2004-2006	21.6	6.9	36.3
	2007-2009	24.0	8.6	39.3
	2010-2012	39.6	20.0	59.2
	2013-2015	23.4	8.1	38.6

Appendix 2. Age-adjusted suicide rates among males employed in non-construction occupations, by state and year (cont).

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
QLD	2001	13.9	11.3	16.6
	2002	14.3	11.6	17.0
	2003	15.2	12.5	18.0
	2004	14.9	12.1	17.6
	2005	13.9	11.3	16.5
	2006	10.1	7.9	12.3
	2007	11.5	9.1	13.9
	2008	13.8	11.2	16.5
	2009	15.5	12.7	18.3
	2010	19.5	16.4	22.7
	2011	18.0	15.0	21.0
	2012	12.1	9.7	14.6
	2013	13.2	10.6	15.7
	2014	14.5	11.8	17.2
	2015	13.7	11.1	16.3
SA	2001	14.1	9.9	18.3
	2002	11.1	7.4	14.9
	2003	9.8	6.3	13.3
	2004	8.9	5.5	12.3
	2005	15.0	10.7	19.3
	2006	10.3	6.8	13.9
	2007	13.5	9.4	17.7
	2008	14.0	9.8	18.2
	2009	10.6	6.9	14.3
	2010	12.6	8.7	16.6
	2011	13.7	9.6	17.9
	2012	11.4	7.6	15.2
	2013	12.3	8.4	16.2
	2014	13.3	9.2	17.4
	2015	6.8	3.9	9.7

Appendix 2. Age-adjusted suicide rates among males employed in non-construction occupations, by state and year (cont).

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
TAS	2001-2003	19.4	10.1	28.7
	2004-2006	23.3	13.3	33.3
	2007-2009	20.8	11.3	30.4
	2010-2012	16.2	7.9	24.5
	2013-2015	16.2	7.9	24.4
VIC	2001	13.8	11.5	16.1
	2002	13.3	11.0	15.5
	2003	13.9	11.6	16.2
	2004	15.2	12.8	17.6
	2005	14.2	11.9	16.5
	2006	14.5	12.1	16.8
	2007	13.7	11.4	15.9
	2008	11.7	9.6	13.8
	2009	13.2	10.9	15.4
	2010	12.4	10.2	14.6
	2011	8.7	6.9	10.6
	2012	11.7	9.6	13.8
	2013	14.4	12.1	16.7
	2014	14.6	12.2	17.0
	2015	10.5	8.5	12.5

Appendix 2. Age-adjusted suicide rates among males employed in non-construction occupations, by state and year (cont).

		AGE-ADJUSTED SUICIDE RATES	LOWER CONFIDENCE INTERVAL	UPPER CONFIDENCE INTERVAL
WA	2001	18.5	14.3	22.8
	2002	17.0	13.0	21.1
	2003	18.2	14.0	22.3
	2004	17.7	13.6	21.9
	2005	18.0	13.9	22.2
	2006	17.2	13.1	21.2
	2007	20.0	15.6	24.4
	2008	21.0	16.5	25.5
	2009	12.2	8.8	15.6
	2010	17.4	13.3	21.4
	2011	19.3	15.0	23.6
	2012	19.4	15.1	23.8
	2013	21.0	16.6	25.4
	2014	19.7	15.3	24.0
	2015	17.5	13.4	21.7
Australia	2001	14.6	13.5	15.8
	2002	14.7	13.5	15.9
	2003	14.4	13.3	15.6
	2004	14.3	13.1	15.4
	2005	14.7	13.5	15.9
	2006	12.8	11.7	13.9
	2007	14.0	12.8	15.1
	2008	14.0	12.8	15.2
	2009	12.5	11.4	13.6
	2010	15.2	14.0	16.4
	2011	13.4	12.2	14.5
	2012	13.1	11.9	14.2
	2013	13.5	12.4	14.7
	2014	14.8	13.6	16.0
	2015	12.0	10.9	13.1



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