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Mesothelioma in Australia 2018: occupational asbestos exposure

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Mesothelioma may be associated with occupational and/or non-occupational asbestos exposure. Historically, occupational exposure usually occurred in occupations linked to asbestos mining and the manufacturing and use of asbestos-containing materials (Safe Work Australia 2014).

What is mesothelioma?

Mesothelioma is a rare and aggressive form of cancer in the mesothelium—the protective lining on the inside of body cavities and the outside of internal organs. The predominant cause of mesothelioma is exposure to asbestos. Each year, between 700 and 800 people are diagnosed with mesothelioma nationally, and 5-year survival rates remain very low at around 5% (AIHW 2019).

Mesothelioma can have a long latency period—symptoms can take decades to appear after asbestos exposure has occurred.

The AMR collects information on new cases of mesothelioma diagnosed in Australia from 1 July 2010. For more information, see *Mesothelioma in Australia 2018: methodology paper*.

Australia's history with asbestos

Asbestos-related regulatory controls have been significantly tightened over time—asbestos and asbestos-containing materials (ACMs) have been banned in Australia since December 2003, and it is illegal to make, use or import it from another country. However, due to the extensive use of asbestos and ACMs in Australia from the 1950s to the 1970s, a large amount of asbestos still remains in older structures and products, potentially exposing workers and/or the public to asbestos hazards if safety procedures are not followed. The Commonwealth and state and territory work health and safety authorities have put in place strict asbestos-related regulatory measures to control asbestos exposure in workplaces (including safe management and removal of asbestos), to minimise asbestos related diseases such as mesothelioma, asbestosis and lung cancer.

Because mesothelioma typically develops a long time after exposure, the majority of current cases included in this report are likely related to occupational exposure in workplaces from earlier time-periods which pre-date current occupational asbestos regulations and practices, and therefore should not be interpreted as indicative of current risk in workplaces today.

How is occupational asbestos exposure assessed?

Mesothelioma patients recorded on the AMR can voluntarily complete an asbestos exposure assessment (comprised of a non-occupational component and an occupational component) to determine potential circumstances of past exposure. This report presents the most recent findings from the occupational component of the exposure assessment.

The occupational asbestos exposure assessment was based on the jobs held by the participant during their working life using job-specific questionnaire modules (JSMs)—for example, participants who reported working in jobs such as electrician, plumber or carpenter were questioned about specific circumstances of exposure in those jobs using a specific 'Trades' module. For the purposes of this assessment, potential exposures were classified according to the likelihood that they were above background levels of 0.0001 f/ml (fibres of asbestos per millilitre) (Brown 2001). Probability of exposure was assessed as either 'unlikely', 'possible' or 'probable' and, for the latter, the estimated level of exposure was classified as either 'high', 'medium', 'low' or 'unknown'. For more information, see *Mesothelioma in Australia 2018: methodology paper*.

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How many people were assessed?

Around 1,000 people (791 men and 206 women) diagnosed with mesothelioma between 1 July 2010–31 December 2018 had consented to participate in the voluntary asbestos exposure assessments as at 1 April 2019. Of these, 891 (702 men and 189 women) completed both the questionnaire and telephone interview components of the assessment. This report presents results for the three most-commonly assigned job-specific modules—of the 891 participants, the ‘Trades’ module was used in 517 participants’ interviews, the ‘Land transport’ module was used in 133 interviews, and the ‘Water transport’ module was used in 102 interviews.

111 participants’ interviews included one or more of the other eight job-specific modules, however these other modules are not included in this report due to the relatively small number of participants for whom each of these modules were used.

The following methodological factors should be considered in interpreting this data:

- For participants who received the same module for more than one job, the results presented are based on a participant’s **highest exposed job** in that category.
- Because many participants had different exposure probabilities and/or levels for different jobs, the exposure estimate is the **maximum exposure likely** in that job category for each individual.
- Because questionnaire modules are assigned only to jobs with some likelihood of exposure, the finding of exposure in so many of the jobs that respondents were questioned about is to be expected.
- Participants may be assigned **different modules** for different types of jobs, so the numbers presented do not equal the total number of participants (For more information, see *Mesothelioma in Australia 2018: Methodology paper*).

Jobs are coded according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO).

What do the occupational asbestos exposure assessment results tell us?

Based on the interview data collected, 68% of participants who received the ‘Trades’ module, 73% of participants who received the ‘Water transport’ module, and 43% of those who received the ‘Land transport’ module, were estimated to have had ‘probable’ exposure for jobs in those categories.

Among participants who received the Trades module (Figure 1):

- 86% of those who had metal fitter/turner/toolmaker jobs were assessed as having had probable exposure in those jobs and for 91% of those with probable exposure level were classified as ‘high’.
- 79% of those who had plumber/gasfitter jobs, 79% of those who had electrical trade jobs, and 77% who had jobs in building trades, were assessed as having had probable exposure in those jobs and for the majority of these, exposure level was classified as ‘high’.
- 67% who had telecommunications technician jobs and 66% who worked in engineer jobs were assessed as unlikely to have been exposed in those jobs.

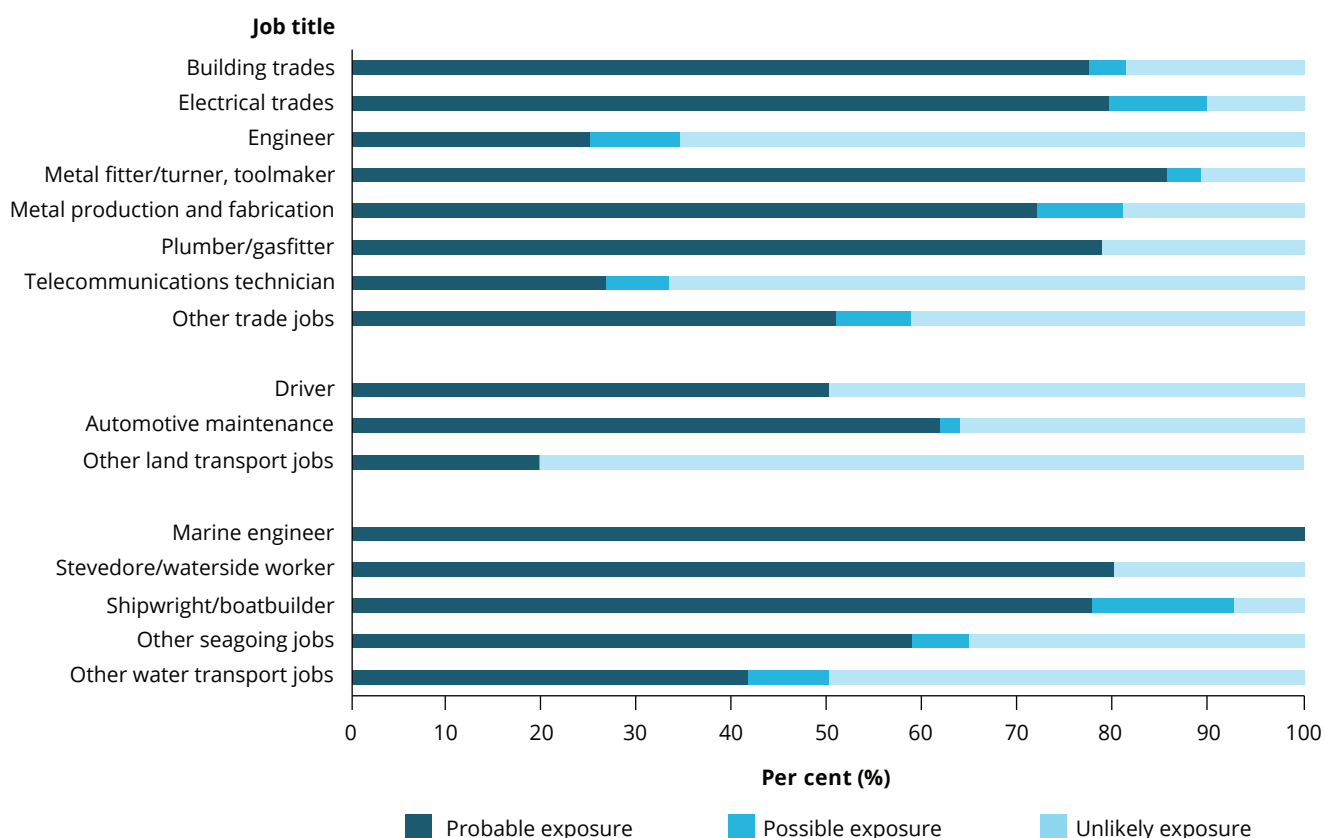
Among participants who received the water transport module (Figure 1):

- All participants with marine engineer jobs were assessed as having had probable exposure, with the exposure level estimated as ‘high’ for 78% of these. 78% of participants with shipwright/boatbuilder jobs were estimated to have had probable exposure at a ‘high’ level.

Among participants who received the land transport module (Figure 1):

- 62% of participants who had jobs in automotive maintenance, and 50% of those with driving jobs, were assessed as having had probable exposure and among those assessed as probably exposed in these jobs, exposure level was estimated as ‘high’ for most.

Figure 1: Occupational asbestos exposure by job-specific module and job title, among cases of mesothelioma diagnosed between 2010 and 2018, based on a participant's highest exposed job



Source: AMR data at 1 April 2019, based on interviews completed among people who were diagnosed with mesothelioma between 1 July 2010–31 December 2018.

Table 1: Occupational asbestos exposure by job-specific module and job title, among cases of mesothelioma diagnosed between 2010 and 2018, based on a participant's highest exposed job

Job-specific module / Job title		Assessed probability of exposure (no. of participants)					
		Unlikely	Possible	Unknown	Low	Medium	High
Trades (participants = 517)	Building trades	53	11	0	1	6	212
	Electrical trades	8	8	0	0	0	62
	Telecommunications technician	10	1	0	0	0	4
	Plumber/gasfitter	13	0	1	1	0	46
	Metal production and fabrication	17	8	1	0	5	58
	Metal fitter/turner, toolmaker	9	3	1	1	3	66
	Electrician	21	3	0	0	1	7
	Other trade jobs	90	17	0	2	4	105
Water transport (participants = 102)	Marine engineer	0	0	0	1	5	21
	Other seagoing jobs	12	2	0	9	2	9
	Shipwright/boatbuilder	2	4	0	2	4	15
	Stevedore/waterside worker	1	0	0	0	0	4
	Other water transport jobs	6	1	0	2	2	1
Land transport (participants = 133)	Driver	19	0	0	0	1	18
	Automotive maintenance	17	1	0	0	1	28
	Other land transport jobs	41	0	0	0	0	10

Source: AMR data at 1 April 2019, based on interviews completed among people who were diagnosed with mesothelioma between 1 July 2010–31 December 2018.

Where do I go for more information?

More information on the AMR is available at www.mesothelioma-australia.com/home. The report Mesothelioma in Australia 2018 and previous annual reports are available at www.mesothelioma-australia.com/publications-and-data/publications. People diagnosed with mesothelioma can choose to self-notify by contacting the AMR via email at amr@aihw.gov.au or via the toll-free information line on 1800 378 861.

References

AIHW (Australian Institute of Health and Welfare) 2019. Mesothelioma in Australia 2018. Cat. no. CAN 130. Canberra: AIHW.

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