

NSW Dust Disease Register Annual Report 2021-22

SafeWork NSW

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1. Introduction

This is the second annual report of the NSW Dust Disease Register (Register), managed by SafeWork NSW.

The Register records notifications of cases of occupational dust diseases silicosis, asbestosis and mesothelioma in a single place to monitor and analyse the incidence of notifiable occupational dust diseases in NSW.

This report focuses on the notifications from NSW Health of diagnosed cases of silicosis, asbestosis and mesothelioma and death registrations where these diseases are mentioned; reported to the Register during the 2021-22 Financial Year (1 July 2021 – 30 June 2022).

This report has been prepared to meet the requirements of Section 271D of the *Work Health and Safety Act 2011* (NSW), which is for SafeWork NSW to produce a report that includes:

- a. the number of cases of occupational dust diseases notified to SafeWork NSW under section 271B during the financial year,
- b. the number of deaths resulting from occupational dust diseases notified to SafeWork NSW under section 271B during the financial year,
- c. the types of diseases or conditions recorded in the Register during the financial year,
- d. the actions SafeWork NSW has taken to implement the purposes of the Register, and
- e. any other information about a disease or condition recorded in the Register that SafeWork NSW considers appropriate.

2. Notifiable Dust Diseases on the Register

2.1 Cases and Deaths

Type of dust disease	Number of cases	Number of deaths
Asbestosis	142	111
Mesothelioma	270	192
Silicosis	64 ¹	10
Total	476	313²

2.2 Silicosis

2.2.1 Cases by type

Silicosis type	Number of workers
Accelerated	<5
Acute	7
Chronic	45
Not identified	8

57 cases were notified to NSW Health by icare, 7 were notified by other medical practitioners.

¹ A small number of silicosis cases notified to SafeWork NSW are known to have been diagnosed prior to the 2021/22 reporting period. They may also appear in legacy data from previous years.

² Death data may be updated in future reports after formal coding is completed by the Australian Bureau of Statistics (see sub-section 4.3.2 Deaths).

2.2.2 Lung function impairment

Over half of the cases where lung function impairment has been identified, have 0-5% impairment. In the early stages of silicosis, workers usually do not have symptoms.

% Lung function impairment	Number of workers
0-5	19
5-40	9
>40	7
Not identified	29

2.2.3 Demographics of workers

Demographic data (including culturally and linguistically diverse communities (CALD), age groups and gender) is collected to inform targeted prevention activities including translated resources and targeted awareness campaigns.

- Demographic data has been deidentified to adhere to privacy protocols.
- All cases of silicosis are male.

a. Region of birth

- Australian/New Zealand and Asian born workers represented the highest proportion of cases.
- Country of birth data has been grouped under 'region' to allow for more meaningful reporting while maintaining privacy principles, due to the small volumes of data.

Region of birth	Number of workers
Australia/New Zealand	21
Asia	19
Europe	6
Not identified	18

b. Age group

Age group	Number of workers
Under 21	0
21-40	19
41-70	35
71-90	9
90+	0
Not identified	<5

2.2.4 Occupational exposure of workers

- The worker's last reported industry/occupation. Due to latency of disease and movement of workers between jobs and industries, the industry/occupation reported may not be where exposure occurred.
- ANZSIC code is determined based on employer information. For some businesses, their ANZSIC codes may not align with a worker's ANZSCO code (for example a business may not be classified as a 'trades' business but may employ tradespeople).
- The highest number of reported cases by industry is 2090 – Other non-metallic mineral product manufacturing (includes manufactured stone).
- The highest number of reported cases by occupation is 7111 – Clay, concrete, glass and stone processing machine operators (includes manufactured stone workers).

a. By industry where last exposure is expected to have occurred

ANZSIC code	Number of workers
2090 – Other non-metallic mineral product manufacturing (including manufactured stone)	50
3109 – Other heavy and civil engineering construction	10
3212 – Site preparation services earthmoving work	
Other	<5
Not specified	<5

b. By occupation where last exposure is expected to have occurred

ANZSCO code	Number of workers
7111 – Clay, concrete, glass and stone processing machine operators	46
3311 – Bricklayers and stonemasons	<5
7212 – Earthmoving plant operators	9
8219 – Other construction and mining labourers	
Other	5
Not specified	<5

2.3 Asbestosis and Mesothelioma

2.3.1 Demographics of people diagnosed

- Most of the 253 people diagnosed with asbestosis and the 462 with mesothelioma were male (87%).
- The majority of the 715 people diagnosed were aged between 71-90 years of age (includes both alive and deceased).

2.3.2 Occupational exposure of workers

The main industries where primary exposure to asbestos is likely to have occurred, based on the NSW Health notifications received, for workers diagnosed with asbestosis or mesothelioma are:

- Construction,
- Manufacturing,
- Electrical,
- Painters, and
- Transport workers/truck drivers.

Primary exposure means the industry where the worker is most likely to have contracted asbestosis or mesothelioma. The long latency of these diseases means that people can work across multiple industries over time where they are potentially exposed to asbestos.



3. Actions for the Purposes of the Register

SafeWork NSW is delivering the NSW Dust Strategy (2020-2022), ensuring a coordinated approach for the safe handling of hazardous occupational dusts. The Register enables SafeWork NSW to investigate harmful workplace exposure to silica and asbestos that has resulted in an occupational dust disease. The investigations that follow these case notifications contribute to a broader strategy of compliance and harm prevention activities under the NSW WHS Roadmap 2017-2022 (Roadmap).

SafeWork NSW Inspectors review disease notifications to determine an appropriate course of action under WHS legislation. Insights from disease notifications including demographic data about age, gender and country of birth is used to inform targeted prevention and awareness activities. Guidance material is translated into key languages and promoted through cultural groups and awareness campaigns are targeted to key Culturally and Linguistically Diverse (CALD) communities.

SafeWork NSW continues to provide education and awareness to businesses and workers who are at risk of exposure to silica and asbestos dusts. Information from the Register will be shared at industry engagement events and through educational materials. SafeWork NSW analyses and updates reporting on information contained in the Register including publishing the NSW Government Silica Dashboard

As part of its Dust Disease Care Scheme, icare runs a Lung Screening Service which provides health monitoring for workers exposed to hazardous dusts in the workplace. These services are provided at subsidised rates. Manufactured stone industry businesses can access free screening as part of the Roadmap. The service is offered at a clinic in Sydney and through a mobile service that travels to worksites across the state.

3.1 Silica

Silica dust is a Top 2 Priority Chemical in the NSW Hazardous Chemicals Strategy 2017-2022 being delivered as part of the Roadmap, with a target of 30 per cent reduction in serious injuries and illnesses with a focus on reducing exposure to hazardous chemicals.

Key components of the project are awareness and education, inspector visits and compliance, legislation, and research into best practice approaches to harm prevention. Details of these are published on the NSW Government Silica Dashboard, which is updated quarterly.

Since launching its silica-focused program in 2018, SafeWork NSW has completed 2115 silica-related workplace visits, resulting in 1279 improvement notices issued, 47 prohibition notices for uncontrolled exposure to silica dust and 2 penalty notices for uncontrolled dry cutting, grinding, drilling and polishing of manufactured stone (as at 30 June 2022).

Awareness campaigns ran during 2021-2022, included radio and online advertising, symposiums, regional roadshow events, industry presentations, webinars, podcasts, the Clean Air, Clear Lungs campaign and the publication of video safety alerts.

SafeWork NSW construction inspectors completed intensive visits of construction worksites state-wide throughout January, February and March 2022, to discuss and provide guidance to principal contractors and site supervisors regarding managing the risks of exposure to silica dust, and control measures to protect worker health.

NSW has adopted the model Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace, which came into effect in NSW on 25 February 2022. This code was shared with silica related businesses who also had the opportunity to attend an educational webinar. A recording of the webinar along with an easy-to-follow visual checklist, have been published on the SafeWork NSW website to assist businesses to understand how to apply the code in their workplace.

Employers are required under WHS legislation to provide health monitoring to workers if there is a significant risk to the worker's health because of exposure to crystalline silica. The employer also has a duty to provide a copy of the health monitoring report to SafeWork NSW where a worker may have developed a disease or injury and/or the report contains any recommendations on remedial measures at the workplace. Before the introduction of the Register and fines for failure to notify, this duty was not being followed.

SafeWork NSW's Centre for WHS has partnered with Trolex to help develop a respirable crystalline silica (RCS) sensor that provides real time feedback to workers who are at risk of exposure to RCS. The first Australian field trials of new technology began late 2021. The new technology differs from existing air monitoring as it accurately detects RCS particles in the air in real time, analysing incoming data to provide a milligram per cubic meter reading and a feature that will alert workers if they are in danger. In Phase 1, technology was developed and tested to show that it can accurately monitor silica dust exposure in real time. Phase 2, is the commercialisation of a fixed and transportable unit, expected to be completed during 2022. In 2023, the project aims to deliver a market-ready, miniaturised (wearable) real time RCS detection unit and accessories.

3.2 Asbestos

SafeWork NSW is a member of the NSW Asbestos Coordination Committee to improve asbestos management and awareness across NSW. A key focus for committee members is to align activities with the goals of the National Strategic Plan for Asbestos Awareness and Management 2019-2023 (NSP), which aims to eliminate asbestos-related diseases in Australia by preventing exposure to asbestos fibres.

The NSP ensures there is a nationally consistent and coordinated approach to asbestos awareness, management and removal.

SafeWork NSW chairs the Demolition and Asbestos Consultative Committee which provides a regular forum for industry stakeholders to discuss asbestos health and safety matters.

Key activities that SafeWork NSW undertakes in relation to asbestos includes:

- regulation and compliance of asbestos removal/assessor licence holders and registered training organisations delivering asbestos training,
- enforcement activities, which resulted in 425 improvement notices, 162 prohibition notices and 55 penalty notices issued during 2021/22,
- reforms to enable simpler licensing processes and improved customer service, and
- awareness and education activities such as development and promotion of asbestos safety videos, improving knowledge and influencing behaviour around asbestos exposure risks in the workplace and regular asbestos awareness campaigns.

Under WHS legislation, employers must provide health monitoring to workers who are at risk of being exposed to asbestos while on the job, before starting asbestos removal work or ongoing asbestos related work. This includes licensed asbestos removalists and assessors who are wearing full personal protective equipment. Health monitoring should also be provided to workers at regular intervals (at least once every two years) after the worker starts asbestos-related work where there is a risk of exposure to asbestos.

The employer also has a duty to provide a copy of the health monitoring report to SafeWork NSW if the worker has developed a disease or injury and/or the report contains any recommendations on remedial measures at the workplace.

4. Appendix

4.1 Governance

The conditions silicosis, asbestosis and mesothelioma (as it is a cancer) are included as Scheduled Medical Conditions under Part 4 of the *Public Health Act 2010* (NSW), requiring medical practitioners to notify NSW Health when they diagnose a case in NSW.

Part 14 of the *Work Health and Safety Act 2011* (NSW) enables NSW Health to share these notifications with SafeWork NSW for inclusion in the Register and requires SafeWork NSW to securely manage the Register and report to the Minister at the end of each financial year until the Minister is satisfied that a national register has been established to monitor the prevalence of dust diseases and conditions.

In July 2019, the National Dust Disease Taskforce was established to consider a national approach to addressing dust-related harms. This Taskforce handed down its early recommendations and findings in December 2019, which included to consider establishing a national dust disease register (recommendation 4). The NSW Government through SafeWork NSW continues to participate in providing information and advice to this taskforce for the consideration of development of a national dust disease register.

A Memorandum of Understanding (MOU) detailing the roles and responsibilities of NSW Health and SafeWork NSW in collecting, transmitting, recording and destroying disease notification data for the Register is in place. The MOU is available on the NSW Government Silica Dashboard webpage.

To enable NSW medical practitioners to notify a silicosis or asbestosis diagnosis, notification forms were developed consistent with other NSW Health forms for notifiable diseases and published on the NSW Health website.

4.2 Information disclosures to other Public Service agencies

Information contained in the notification forms and the Register remains private and confidential.

The *Work Health and Safety Act 2011* (NSW) allows for Register data to be referred to relevant regulators.

SafeWork NSW has referred five (5) notifications to the NSW Resources Regulator, the work health and safety regulator for mines and petroleum sites.

No further data from the Register has been shared beyond public reporting during the 2021/22 Financial Year.

4.3 Data considerations and quality assurance

4.3.1 Privacy

To adhere to data privacy principles, where a figure equals less than five (5), the symbol <5 will be shown. Country of birth data has been grouped as 'region of birth' and occupation and industry data has been grouped, to provide more meaningful information due to the low volumes of data which would require the <5 symbol to be used.

4.3.2 Deaths

Death registrations to the NSW Deaths Registrations Unit Record File (DRURF) that mention silicosis, asbestosis and mesothelioma are provided to the Register by NSW Health at the end of each quarter. Information on deaths may be updated in future reports after formal coding is completed at a national level by the Australian Bureau of Statistics for underlying and contributing causes of death. This process can take up to two years and can be further delayed if a death is referred to the coroner. Death data may also be captured if a 'date of death' is listed on a disease notification form.

4.3.3 Missing information

The information contained in the Register relies on the notification forms completed by diagnosing doctors and supplied to SafeWork NSW by NSW Health, death registrations at the DRURF and information contained in the NSW Cancer Registry. During investigations, SafeWork NSW Inspectors may determine additional information that can be updated on the Register. Where information has not been provided in a notification and has not been determined through investigations, it is shown as 'not identified'.

4.3.4 Quality assurance

The development of the disease notification forms followed careful planning and consultation with SafeWork NSW, NSW Health, medical practitioners and other WHS regulators to ensure they capture all the necessary information for the Register. Information entered into the Register is carried out by SafeWork NSW officers and undergoes regular analysis and reporting, including quarterly updates of the NSW Government Silica Dashboard.

4.3.5 Updates in future reports

The information contained in this report may be updated in subsequent reports. For example, if additional cases diagnosed during 2021-22 were not notified by 30 June 2022, or if there are changes to death data following final coding for underlying and contributing causes of death.

4.4 Case notification, recording and reporting requirements

Occupational dust disease notification, recording and reporting processes comply with requirements of the *Public Health Act 2010* (NSW), *Work Health and Safety Act 2011* (NSW), *Health Records and Information Privacy Act 2002* (NSW) and the *Privacy and Personal Information Protection Act 1998* (NSW). The procedure for handling dust disease notifications is:

1. The diagnosing doctor completes and submits a notification form available on the NSW Health website to NSW Health to notify of a silicosis or asbestosis diagnosis. Like all cancers, mesothelioma is notified to the NSW Cancer Registry, managed by Cancer Institute NSW.
2. NSW Health collects and securely transmits these forms to SafeWork NSW on a quarterly basis, along with any new death registrations in the DRURF that mention silicosis, asbestosis or mesothelioma; and NSW mesothelioma case information held by the Cancer Institute NSW.
3. SafeWork NSW receives the information from NSW Health via secure file transfer.
4. SafeWork NSW enters the information into the secure Register and manages records. Where necessary and relevant, SafeWork NSW shares information with other WHS regulators (NSW Resources Regulator and Comcare). SafeWork NSW uses the information in the Register to investigate workplace exposure to silica and asbestos dusts; as well as analyse and report the information contained in the Register.
5. SafeWork NSW provides the Register Annual Report (this report) to the relevant Minister at the end of each financial year and no later than 30 September.
6. The Minister tables the Register Annual Report in Parliament.
7. SafeWork NSW publishes the Annual Report on its website www.safework.nsw.gov.au.

4.5 Legacy data

The following table shows information on dust diseases in NSW from previous years, including before the creation of the Register.

Information in this table for the financial years 2017-2020 (1 July – 30 June) is sourced from icare NSW and was not collected using the same form and processes used for the Register, including cases and deaths not being reported separately. Therefore, direct comparisons with the dust diseases data in the Register cannot be made.

Note that for 2020/21, silicosis data is for the full 12 month reporting period (silicosis became a Scheduled Medical Condition on 1 July 2020) while asbestosis and mesothelioma data is for the final six months of the reporting period (asbestosis became a Scheduled Medical Condition on 18 December 2020).

Year (1 July to 30 June)	Disease type	Cases
2020/21	Silicosis (full 12 months)	57 + 7 deaths
	Asbestosis (final six months)	13 + 89 deaths
	Mesothelioma (final six months)	37 + 126 deaths
2019/20	Silicosis	107
	Asbestosis	73
	Mesothelioma	174
2018/19	Silicosis	40
	Asbestosis	66
	Mesothelioma	173
2017/18	Silicosis	9
	Asbestosis	47
	Mesothelioma	176

4.6 Glossary

Term	Meaning
ANZSCO	Australian and New Zealand Standard Classification of Occupations, the Australian Bureau of Statistics system for coding and categorising occupations. Where a case's occupation data is known, it has been labelled with the relevant ANZSCO code.
ANZSIC	Australian and New Zealand Standard Industrial Classification, the Australian Bureau of Statistics system for coding and categorising industries. Where a case's industry data is known, it has been labelled with the relevant ANZSIC code.
Asbestos	Asbestos is a group of naturally occurring fibrous minerals. Asbestos was widely used to create cheap, lightweight, and fire-resistant materials for use in buildings, manufacturing and utilities. Millions of Australian homes contain asbestos. Asbestos is common in NSW homes and buildings constructed or renovated before 1990.
Asbestosis	Asbestosis is a chronic lung disease caused by exposure to asbestos dust. Inhaling asbestos dust can cause scarring in the lungs and in the pleural membrane (lining that surrounds the lungs).
DRURF	The Deaths Registrations Unit Record File (DRURF) includes all deaths registered with the NSW Registry of Births, Deaths and Marriages, including residents of NSW and non-residents. Deaths registration data are timely, however the diagnoses for death registrations data in the DRURF have not been formally coded for underlying and contributing causes of death. This takes place at a national level by the Australian Bureau of Statistics and can take up to two years to occur. Deaths data included in this report may be updated in future reports once this formal coding has been completed and more accurate data is known.
Dust disease	In this report, the term 'dust disease' refers to the three dust diseases that are included in the NSW Dust Disease Register – asbestosis, silicosis and mesothelioma.
Dust Disease Register	The NSW Dust Disease Register is the database where notifications of diagnosed cases of dust disease and deaths are stored. This database is held and managed by SafeWork NSW.
Manufactured Stone industry	Industry that fabricates and installs manufactured stone products (commonly composite quartz benchtops). Manufactured stone products commonly contain a high percentage of silica content and the processes to fabricate and install these products, using high-powered machinery can generate significant silica dust if appropriate safety controls are not in place.
Medical practitioner	All registered medical practitioners in NSW, colloquially referred to as 'doctors'.
Mesothelioma	Mesothelioma is a cancer of the mesothelial cells which cover most internal organs. The only known risk factor for mesothelioma is exposure to asbestos. It can take many years after being exposed to asbestos (between 20 and 60) for mesothelioma to develop.
Notification	Information captured in the NSW Health notification form regarding a person's diagnosis of silicosis or asbestosis, a death where a notifiable dust disease is mentioned, or information received by the Register regarding cases of mesothelioma held on the NSW Cancer Registry maintained by Cancer Institute NSW.
Occupational exposure	Exposure of a person to a disease-causing agent (in this case respirable crystalline silica or asbestos) occurring during the person's work.

Term	Meaning
Silica	The term silica refers to crystalline silica, typically quartz. When materials containing silica are cut, ground, blasted or polished to create dust, this dust can contain fine particles of silica (respirable crystalline silica) that can be breathed deep into the lungs. This fine silica dust is what causes silicosis.
Silicosis	Silicosis is a long-term lung disease caused by inhaling silica dust, usually over a period of many years. The main symptoms of silicosis are shortness of breath, chest pain, cough, and tiredness. However, in the early stages of silicosis there may be no symptoms. The symptoms can become severe as the condition gets worse.
Silicosis – acute	Acute silicosis occurs after a short exposure to very high levels of silica when the alveolar spaces fill with a lipid and proteinaceous exudate. Working with composite stone products (also known as manufactured stone) containing high amounts of crystalline silica also has been linked to cause acute silicosis. Acute silicosis causes rapidly progressive dyspnoea and death, usually within months of onset.
Silicosis – accelerated	Accelerated silicosis occurs within 3 to 10 years of high-level occupational exposure to silica dust. Accelerated silicosis causes severe shortness of breath and may result in complications including respiratory failure and death.
Silicosis – chronic	Chronic silicosis is the most common form of silicosis, where fibrosis occurs more slowly over 10–30 years after first being exposed.

4.7 Acknowledgments

The Register and the delivery of this report is made possible through the cooperation of a number of NSW Government agencies and other associations and organisations, including:

- NSW Health (including the Cancer Institute NSW)
- icare (Insurance and Care NSW)
- NSW Registry of Births Deaths and Marriages
- Department of Customer Service (including SafeWork NSW)
- Thoracic Society Australia New Zealand
- Royal Australasian College of Physicians
- Lung Foundation Australia

