



Prepared for: Standing Committee on Law and Justice (Tina Higgins)

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Subject: Silicosis in the manufactured stone industry - developments

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REQUEST

A briefing/research paper on federal developments regarding the management of dust diseases, particularly focused on the use of manufactured stone in the construction industry. It would be helpful for the paper to address:

1. Current/recent data on silicosis in NSW, potentially compared to other Australian jurisdictions (potentially health data, but maybe also from icare who manage the dust diseases scheme in NSW)
2. Federal developments since March 2019 (the last review) – noting that the [National Taskforce's report](#) was handed down in June 2021
3. Any interesting developments taking place in other jurisdictions in Australia with regard to the **prevention**, **management** and **treatment** of silicosis for stonemasons.

RESPONSE

This response comprises:

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1. Silicosis data: NSW

1.1 From 1 July 2020 to 30 June 2021

1.1.1 Number of silicosis cases and silicosis-related deaths

From 1 July 2020, all medical practitioners must notify NSW Health when they diagnose a case of silicosis.¹ The NSW Dust Disease Register also commenced on 1 July 2020.² Data on silicosis cases notified since 1 July 2020 has been published in the [NSW Dust Disease Register Annual Report 2020-21](#) and the NSW Government's [Silica Dashboard](#).

From 1 July 2020 to 30 June 2021:

- NSW Health was notified of **57 silicosis cases**.³
- there were **seven silicosis deaths** in NSW.⁴

1.1.2 Cases by silicosis type and lung function impairment

Of the 57 silicosis case notifications made to NSW Health from 1 July 2020 to 30 June 2021, the majority were chronic (44 or 79%).

Table 1: NSW silicosis cases by type, 1 July 2020 to 30 June 2021 ⁵		
Silicosis type	Number	Breakdown (%)
Accelerated	<5	n/a
Acute	<5	n/a
Chronic	44	77.19
Not identified	5	8.77

Note: In order to maintain data privacy, the symbol for less than five (<5) has been used, rather than a specific number under five. 'n/a' equals not available.

¹ SafeWork NSW, [Notification of silicosis diagnosis](#), no date, [website-accessed 27 September 2021]. Silicosis is a scheduled medical condition under [Part 4](#) of the *Public Health Act 2010*.

² For background information on the establishment of the NSW Dust Diseases Register, please see: Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 4. The [Silica Dashboard](#) also includes information on workplaces visits, notices issued and action taken to reduce silica exposure.

³ [Silica Dashboard](#) and Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 6.

⁴ [Silica Dashboard](#) and Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 6 and 9. Death data is subject to further updating following "formal coding processes at a national level".

⁵ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 9 and NSW Government [Silica Dashboard](#).

**Table 2: Silicosis cases by percentage of lung impairment,
1 July 2020 to 30 June 2021⁶**

Percentage of lung function impairment	Number	Breakdown (%)
0-5%	23	40.35
6-10%	<5	n/a
11-15%	<5	n/a
16-20%	<5	n/a
21-25%	0	0
26-30%	<5	n/a
31-35%	0	0
36-40%	<5	n/a
>40%	5	8.77
Not provided	18	31.58

Notes: In the early stages of silicosis, symptoms are usually not present. To maintain data privacy, specific numbers under five were not used. 'n/a' equals not available.

1.1.3 Demographic features

Of the 57 silicosis case notifications made to NSW Health from 1 July 2020 to 30 June 2021, all involved men (100%). As set out in Tables 3 to 6, other demographic features include:

- the most common region of birth was Australia/New Zealand;
- the most common age group was 41 to 50 years;
- the most common industry category was “other non-metallic mineral product manufacturing (including manufactured stone)”; and
- the most common occupational grouping was “clay, concrete, glass and stone processing machine operators”.⁷

⁶ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 10 and NSW Government [Silica Dashboard](#).

⁷ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 11-14 and NSW Government [Silica Dashboard](#).

Table 3: Silicosis cases by region of birth, 1 July 2020 to 30 June 2021 ⁸		
Region of birth	Number	Breakdown (%)
Australia/New Zealand	20	35.1
Asia	10	17.5
Middle East	6	10.5
Europe	6	10.5
Not identified	15	26.3

Table 4: Silicosis cases by age group, 1 July 2020 to 30 June 2021 ⁹		
Age group	Number of workers	Breakdown (%)
30 and younger	<5	n/a
31-40	6	10.52
41-50	18	31.57
51-60	12	21.05
61-70	8	14.03
71-80	6	10.52
81-90	<5	n/a

Notes: To maintain data privacy, specific numbers under five were not used. 'n/a' equals not available.

⁸ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 11 and NSW Government [Silica Dashboard](#).

⁹ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 12 and NSW Government [Silica Dashboard](#).

Table 5: Silicosis cases by industry where last exposure is expected to have occurred, 1 July 2020 to 30 June 2021¹⁰

ANZIC Code	Number	Breakdown (%)
2090-Other non-metallic product manufacturing (including manufactured stone)	33	57.89
3109-Other heavy and civil engineering construction	8	14.03
Trades 3221-Concreting services 3222-Bricklaying services 3231-Plumbing services 3243-Tiling and carpeting services	10	17.54
3212-Site preparation services earthmoving work	<5	n/a
Other	<5	n/a
Not specified	<5	n/a

Notes: ANZIC stands for Australian and New Zealand Standard Industrial Classification, the system used by the Australian Bureau of Statistics to code and categorise industries.

To maintain data privacy, specific numbers under five were not used. 'n/a' equals not available.

¹⁰ Safe Work NSW, [NSW Dust Disease Register Annual Report 2020-21](#), July 2021, p 13 and NSW Government [Silica Dashboard](#).

Table 6: Silicosis cases by occupation where last exposure is expected to have occurred, 1 July 2020 to 30 June 2021¹¹

ANZCO Code	Number	Breakdown (%)
7111-Clay, concrete, glass and stone processing machine operators	30	52.63
7212-Earthmoving plant operators	<5	n/a
Trades	12	21.05
3311-Bricklayers and stonemasons		
3312-Carpenters and joiners		
3341-Plumbers		
3344-Wall and floor tilers		
8215-Paving and surfacing labourers		
8211-Building and plumbing labourers		
8212-Concreters		
8219-Other construction and mining labourers	9	15.78
Other	<5	n/a
Not specified	<5	n/a

Notes: ANZCO stands for Australian and New Zealand Standard Classification of Occupations, the system used by the Australian Bureau of Statistics to code and categorise occupations.

To maintain data privacy, specific numbers under five were not used. 'n/a' equals not available.

1.2 Prior to 1 July 2020

A case finding study, [*Respirable crystalline silica exposure in the NSW manufactured stone industry*](#) (the study), was commissioned by SafeWork NSW and published alongside the [*NSW Dust Disease Register Annual Report 2020-21*](#). The aim of the study was to provide “insight into the burden of silica-related disease in the manufactured stone industry from 2017-2020, before the Register started”.¹²

¹¹ Safe Work NSW, [*NSW Dust Disease Register Annual Report 2020-21*](#), July 2021, p 14 and NSW Government [Silica Dashboard](#).

¹² [*NSW Dust Disease Register Annual report 2020-21*](#), July 2021, p 4.

The study was conducted using data and information provided by SafeWork NSW, icare NSW and NSW Health.¹³ The financial years 2017-18, 2018-19 and 2019-20 constitute the study's "reporting period". Earlier data is presented where it provides context for the reporting period data.

Key findings from the study include:

- In the five years preceding the reporting period, the number of NSW workers among all industries/occupations certified with silicosis by icare NSW ranged between 6 and 9 cases per financial year. ...
- During the reporting period, a total of 3030 workers across all industries in NSW were screened for silica exposure by icare NSW, including 696 (23%) manufactured stone industry workers.
- Among these 696 manufactured stone industry workers, 88 (12.6%) were certified with silicosis by icare NSW. This is an average of 29 cases per year from just the manufactured stone industry, over three times the number of cases reported for all industries prior to the identification of cases from the manufactured stone industry (8.7 cases per year).
- Of the 88 manufactured stone workers certified with silicosis, 63 (72%) had chronic simple silicosis and 25 (28%) were diagnosed with one of the more severe form of the disease such as chronic complicated, acute silicosis or accelerated silicosis. The emergence of these more severe forms of silicosis are likely associated with high levels of exposure to crystalline silica and also are likely to be linked to the manufactured stone industry.
- A high proportion of workers (77%) with a silicosis diagnosis were assigned a disability level (i.e. level of lung function loss) of 1% suggesting that these workers had no or minimal silicosis symptoms at the time of certification. Some of these 1% cases may be due to high levels of exposure and may progress rapidly to higher levels of disability. The remaining 23% of manufactured stone industry workers were assigned a disability level ranging between 5% and 40%.
- The majority of manufactured stone industry workers certified with silicosis by icare NSW were stonemasons (70%), followed by manufactured stone installers (15%). Machine operators (7%) and workplace managers (7%) were also among occupations identified among manufactured stone workers certified with silicosis.¹⁴

The study presents data from icare annual reports on silicosis cases from all industries and occupations for the period 2012-13 to 2019-200 (Figure 1). The study notes that annual case numbers were "relatively consistent between 2012 and 2017, with an average of 8.7 cases for workers of all ages observed."¹⁵ The study attributes the increase in the number of identified silicosis cases during 2018-19 and 2019-20 to:

¹³ Golder Associates Pty Ltd, [*Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry*](#), 17 May 2021, p i.

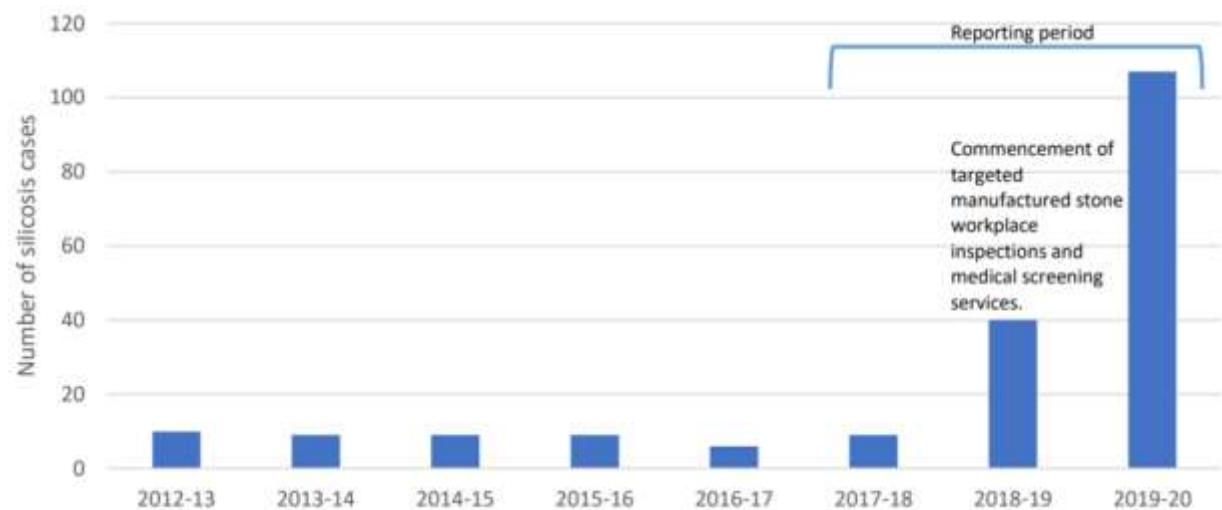
¹⁴ Golder Associates Pty Ltd, [*Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry*](#), 17 May 2021, p ii.

¹⁵ Golder Associates Pty Ltd, [*Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry*](#), 17 May 2021, p 11.

- The commencement of targeted workplace inspections by SafeWork NSW in March 2018, as part of the SafeWork NSW five-year strategy aimed at the manufactured stone industry.
- Introduction of an increase in medical screening services and routine CT scans in 2018 to support the detection of silicosis in workers with potentially significant levels of exposure to respirable crystalline silica.¹⁶

The study also notes that silicosis is a latent disease; as symptoms often appear years after disease onset. Consequently, in the absence of heightened awareness and increased screening initiatives, the prevalence of silicosis in NSW manufactured stone industry workers may not have become apparent for many years.¹⁷

Figure 1: Silicosis cases for all industries and occupations reported by icare NSW for the last eight financial years¹⁸



2. Silicosis data: National

At present, there is no national data relating to the incidence and outcomes of silicosis. Nor do all States and Territories publish silicosis data. The National Dust Disease Taskforce in its *Interim* (December 2019) and *Final* (June 2021) reports responded to this data gap. For instance, the *Interim Report* included an Early Recommendation for the establishment of a National Dust Disease Registry that is “initially focused on accelerated silicosis related to engineered stone”.¹⁹

¹⁶ Golder Associates Pty Ltd, [Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry](#), 17 May 2021, p 11.

¹⁷ Golder Associates Pty Ltd, [Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry](#), 17 May 2021, p 11.

¹⁸ Golder Associates Pty Ltd, [Case Finding Study - Respirable crystalline silica exposure in the NSW manufactured stone industry](#), 17 May 2021, p 12.

¹⁹ National Dust Disease Taskforce, [Interim Advice to Minister for Health](#), December 2019, p 8 (Early Recommendation 2).

The *Final Report* stated that the establishment of a National Occupational Respiratory Disease Registry (National Registry) would support better case identification and enable early intervention for all workers who may have been exposed to respirable silica, as well as other dust diseases:

The establishment of the National Occupational Respiratory Disease Registry (National Registry) will support the capture of notifications of silicosis, as well as other dust diseases, from all jurisdictions, allowing for earlier detection of hazards as well as new cases of disease. In addition, the National Registry will help further define the magnitude and importance of the problem.²⁰

In its *Final Report*, the National Dust Disease Taskforce stated that it has expanded the scope of the National Registry to capture information on all occupational respiratory diseases in Australia:

Initially, the National Registry will require mandatory notification of silicosis by respiratory and occupational physicians, and allow for the voluntary notification of other occupational respiratory disease. ...

Over time the National Registry will develop further. It is possible that a disease notification may change from being voluntary to becoming a mandatory notification. This decision would be taken in consultation with relevant peak medical bodies and the states and territories.²¹

The *Final Report* recommended that the National Registry be operationalised “as soon as possible, with an initial focus on mandatory reporting of silicosis, and voluntary reporting of other occupational respiratory diseases.”²²

The Commonwealth Government’s Department of Health currently states that the *Final Report* “has been presented to Government for its consideration and response.”²³

3. Silicosis data: other States and Territories

The National Dust Disease Taskforce has noted that “best estimates” of silicosis prevalence have to be drawn from data collected and reported by “some jurisdictions.”²⁴ As set out below, silicosis case numbers were located for the jurisdictions of Queensland, Victoria, South Australia and Western Australia. The number of accepted silicosis workers compensation cases was located for all jurisdictions other than the Northern Territory.

²⁰ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 8.

²¹ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 65.

²² National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 12 (Recommendation 6(b)).

²³ Commonwealth Government, Department of Health, [National Dust Disease Taskforce](#) [website-accessed 21 September 2021].

²⁴ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 16.

3.1 Queensland

The National Dust Disease Taskforce *Final Report* refers to the following Queensland WorkCover screening outcomes:

As at June 2021, WorkCover Queensland had completed the health screening of 1,053 stonemasons exposed to crystalline silica dust from engineered stone – 238 people were diagnosed with a work-related condition. Of the workers screened, 229 (21.4 per cent) have silicosis, including 32 with a diagnosis of progressive massive fibrosis (a more severe form of silicosis), and 13 have a respiratory condition that is not silicosis.²⁵

Updated WorkCover Queensland data indicates that Queensland has recorded 202 silicosis cases and an additional 33 cases of progressive massive fibrosis:

As at 31 August 2021, WorkCover had completed the health screening of 1,053 stonemasons exposed to crystalline silica dust from engineered stone, with one yet to complete the process.

248 people were diagnosed with a work-related condition. ... Of these workers:

33 have a diagnosis of progressive massive fibrosis

13 have a respiratory condition that is not silicosis

202 have silicosis.²⁶

3.2 Victoria

With respect to Victoria, the National Dust Disease Taskforce stated in its *Final Report* that a health screening research project identified 133 workers with silicosis.²⁷ The health screening research project is funded by WorkSafe Victoria (WSV) and commenced in mid-2019.²⁸ A Monash University report found that:

Overall, as of July 2020, 456 workers agreed to take part in the screening project and/or the disease registry. Among these 456 workers, 133 (29%) cases of silicosis were identified ... Of the 133 workers with a diagnosis 102 had simple silicosis and 31 had more severe, complicated silicosis.²⁹

The Monash University report noted that, due to the size of stone benchtop industry, it is likely that there are additional undetected silicosis cases:

²⁵ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 16.

²⁶ WorkSafe Queensland, [Silicosis](#), *WorkCover screening outcomes*, 2021 [website - accessed 22 September 2021].

²⁷ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 16.

²⁸ Monash University, [Final report of phase 1: Silica associated lung disease health screening research project](#), November 2020, p 6.

²⁹ Monash University, [Final report of phase 1: Silica associated lung disease health screening research project](#), November 2020, p 6.

As the overall number of workers in the Victorian stone benchtop industry was estimated to be between 1044 to 1462, there are many more past and current workers who have not been assessed through the WSV program. This suggest that some cases have not yet been detected.³⁰

3.3 South Australia

In September 2020, the South Australian Government agency [Wellbeing SA](#) published the baseline findings of its [Silicosis Health Screening Program](#).³¹ As part of the screening program, a silicosis database was developed.³²

The inclusion criteria for the screening program were:

1. Any current or previous South Australian worker with an exposure history in the engineered stone bench-top industry.
2. A worker in selected construction businesses with high exposure to respirable crystalline silica.

A total of 295 workers consented to their data being included in the database and subsequent reports. Of those 295 workers, there were 18 (6%) cases of probable, possible or confirmed simple silicosis. There was no case of severe or accelerated silicosis diagnosed.³³

3.4 Western Australia

On 11 September 2020, the [Institute for Respiratory Health](#) announced that it was conducting a systematic case-finding and screening program of stone benchtop workers in Western Australia.³⁴ According to the Institute for Respiratory Health, the Western Australian Silicosis Screening Program will “[g]ive an idea of the prevalence of silicosis in WA stone benchtop workers”.³⁵

The *Final Report* of the National Dust Disease Taskforce refers to eight cases being detected using low dose High-resolution computed tomography scans (HRCT), instead of x-ray scans:

... 100 stone workers who previously had a chest X-ray and had worked five years or more in the engineered stone industry were offered free scans. The project trialled low dose HRCT scans, in place of chest X-rays ... to determine if X-rays have the sensitivity to detect silicosis symptoms. The project commenced in July 2020 and by

³⁰ Monash University, [Final report of phase 1: Silica associated lung disease health screening research project](#), November 2020, p 7.

³¹ Wellbeing South Australia, [Silicosis Health Screening Program: Baseline findings](#), September 2020.

³² Wellbeing South Australia, [Silicosis Health Screening Program: Baseline findings](#), September 2020, p 3.

³³ Wellbeing South Australia, [Silicosis Health Screening Program: Baseline findings](#), September 2020, p 6.

³⁴ Institute for Respiratory Health, [A new study will help identify Western Australian workers at risk of silicosis](#), 11 September 2020 [website-accessed 23 September 2021]

³⁵ Institute for Respiratory Health, [A new study will help identify Western Australian workers at risk of silicosis](#), 11 September 2020 [website-accessed 23 September 2021]

October 2020, 90 stone workers had completed HRCT scans. The findings from 90 scans identified eight new cases of silicosis, with other abnormalities found from 38 scans. No cases of silicosis had been detected previously. WorkSafe WA may be the first regulatory body in Australia, and likely worldwide, to legislate the use of a low dose chest HRCT as health surveillance for silica workers.³⁶

3.5 Accepted silicosis compensation claims

In its *Final Report*, the National Dust Disease Taskforce provides data on accepted silicosis workers' compensation claims by jurisdiction and industry. The National Dust Disease Taskforce warns, however, that its workers' compensation claim data "are not a true indication of the incidence of silicosis in Australia, as only accepted workers' compensation claims are included."³⁷ The National Dust Disease Taskforce adds:

There are many reasons why a worker with silicosis may not make a compensation claim including fear of loss of employment, difficulty with diagnosis, long latency periods between exposure and symptoms, and difficulty in proving a connection between the disease and a specific workplace.³⁸

Moreover, the established compensation schemes for workers affected by dust diseases are not yet uniform across all jurisdictions.

Table 7 has been reproduced from the National Dust Disease Taskforce's *Final Report*, and shows the number of accepted silicosis claims by jurisdiction and industry, 2000-01 to 2018-19 (combined). As discussed in note 9, the NSW data does not include dust disease claims managed by icare, and therefore underrepresents the number of accepted silicosis claims in NSW.

Table 7: Number of accepted silicosis claims by jurisdiction and industry, 2001-01 to 2018-19 (combined)

Jurisdiction	Manufacturing	Construction	Mining	Electricity, gas, water and waste services	Other Industries	Total
ACT Private	(-)	(-)	n.p.	(-)	(-)	n.p.
NSW	20	60	15	25	15	135
QLD	120	5	15	(-)	5	145
SA	n.p.	(-)	n.p.	(-)	5	5
TAS	5	(-)	(-)	(-)	(-)	5
VIC	60	145	10	(-)	5	220
WA	5	n.p.	n.p.	n.p.	5	15
Total	215	215	40	25	30	520

Explanatory notes to Table 7:

³⁶ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 79.

³⁷ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 16.

³⁸ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 16.

1. The number of claims is rounded to the nearest five to maintain confidentiality. Therefore, the sum of claims in the column may not add up to the total claims shown.
2. Data for 2018-19 are preliminary and are subject to upwards revision when new data are available.
3. n.p. Data suppressed for confidentiality reasons.
4. (-) Cell combination has zero claims.
5. All accepted workers' compensation silicosis claims excluding journey and fatality claims.
6. The claim numbers shown here were extracted using the Type of Occurrence Classification System, Nature of Injury/disease: 784 (Silicosis). Previously, silicosis claims were also coded under 640 (Pneumoconiosis due to other silica or silicates) using TOOCS 2.1.
7. The workers' compensation claims are coded using the Australian and New Zealand Standard Industrial Classification (ANZSIC).
8. 'Other industries' includes all other industries excluding the top four industries (i.e. Manufacturing, Construction, Mining and Electricity, Gas, Water and Waste Services) by number of serious claims.
9. The claims data has been sourced from Safe Work Australia's National Data Set (NDS) for Compensation based Statistics, which is compiled based on workers' compensation data provided annually by each of the jurisdictional workers' compensation authorities. The claims data provided by NSW in the NDS does not include most dust disease claims which are managed through a separate scheme by icare. Therefore, the table underreports claims for NSW. Information on these claims can be found in the icare Annual Reports.

4. Federal Developments since March 2019

4.1 National Dust Disease Taskforce

On 26 July 2019, the Commonwealth Government announced the establishment of the National Dust Disease Taskforce.³⁹ Its Terms of Reference state that the National Dust Disease taskforce will inform “the development of a national approach to the prevention, early identification, control and management of occupational dust diseases in Australia.”⁴⁰ The Commonwealth Government committed \$5 million to support the National Dust Disease Taskforce and its work.⁴¹

Following a consultation process, the National Dust Disease Taskforce provided its [Interim Advice](#) to the Minister for Health in December 2019. In January 2020, the Minister for Health announced that the Commonwealth Government was “acting to accept” its recommendations for the following five immediate national actions:

1. Developing a targeted education and communication campaign to raise awareness of the risks of working with engineered stone
2. Ongoing staged development of a National Dust Disease Registry, with specific data requirements recommended by the Taskforce.
3. Targeted investment in key research activities, to improve understanding of prevention, diagnosis and treatment.
4. Developing national guidance on screening workers working with engineered stone.
5. Development of a national approach to identify occupational silica dust exposure and other future occupational diseases.⁴²

After delays caused by the Covid-19 pandemic, the National Dust Disease Taskforce reconvened in August 2020. It undertook further consultations and commissioned

³⁹ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 18.

⁴⁰ Commonwealth Government, National Dust Disease Taskforce, [Terms of Reference](#), 14 July 2021 [website-accessed 27 September 2021].

⁴¹ Commonwealth Government, Department of Health, [National Dust Disease Taskforce](#), 14 July 2021 [website-accessed 27 September 2021].

⁴² National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 18.

independent market research, including a [Dust Disease Research Update](#).⁴³ The [Final Report](#) of the National Dust Disease Taskforce was delivered to the Minister for Health in June 2021 for the Government's "consideration and response".⁴⁴ The National Dust Disease Taskforce website does not cite or link to any government response.

In its *Final Report*, the National Dust Disease Taskforce recommended:⁴⁵

Recommendations

1. **Strengthen work health and safety measures** to ensure workers are protected from exposure to respirable crystalline silica and its devastating consequences. Maintaining the status quo is not acceptable.
 - a. Take immediate action to ensure that businesses working with engineered stone demonstrate that they:
 - Effectively and continuously manage the risks for workers associated with working with engineered stone;
 - Regularly monitor and record silica dust levels in the workplace, and have these results validated by an appropriately trained occupational hygienist; and
 - Conduct regular health monitoring of all workers exposed to respirable crystalline silica.
 - b. Greater priority be given to **work health and safety monitoring and compliance** activities where workers are at risk of exposure to respirable crystalline silica. Specific consideration should be given to:
 - Development and introduction of an industry funding model to support ongoing regulatory activities; and
 - Increased frequency and robustness of workplace inspections and better promotion of actions taken by WHS regulators.
 - c. Urgently conduct a regulatory impact analysis (RIA) to identify and decide implementation of measures that provide the **highest level of protection to workers from the risks associated with respirable crystalline silica** generating activities in the engineered stone industry. The RIA must consider:
 - A licensing scheme or equivalent to restrict access to the product to those businesses that can demonstrate the ability to effectively manage the risks; and
 - Strengthening the health monitoring requirements include contemporary methodologies such as low dose high resolution computerised tomography (HRCT) scans, and to cover all workers at risk of exposure to respirable crystalline silica.
 - d. Commence the processes required to implement a **full ban on the importation of some or all engineered stone products** if, by July 2024:
 - There is no measurable and acceptable improvement in regulatory compliance rates for the engineered stone sector as reported by jurisdictions; and
 - Evidence indicates preventative measures are not effectively protecting those working with engineered stone from silicosis and silica-associated diseases.

⁴³ Quantum Market Research, [Dust Disease Research Update: Final Report](#), May 2021.

⁴⁴ Commonwealth Government, Department of Health, [National Dust Disease Taskforce](#), 14 July 2021 [website-accessed 27 September 2021].

⁴⁵ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 11-12.

2. Building on the early recommendation from the Interim Advice **to develop national guidance to identify people at risk** from respirable crystalline silica exposure, **improve the quality, frequency and coverage of health screening assessments** for current and former workers.
3. In addition to implementing the early recommendations from the Interim Advice that aim to **prevent the risk of exposure** to respirable crystalline silica and other hazardous dusts, prioritise investment in prevention activities.
 - a. Finalise and implement the **National Silicosis Prevention Strategy** and associated National Action Plan.
 - b. Implement a **national, targeted education and communication campaign**, using lessons learned from jurisdictions and key stakeholders, by end 2021.
 - c. Design and implement an **Early Detection and Rapid Response Protocol** to identify emerging workplace risks using data from the National Occupational Respiratory Disease Registry when it becomes operational, and other relevant sources.
4. **Better support workers** affected by dust diseases and their families through individually tailored programs of psychological, financial and return-to-work support.
 - a. Develop an occupational dust disease management plan for use by health professionals and affected workers, to provide information about the diagnosed disease and what to expect, and the agreed management pathway including referrals for psychological and return-to-work support.
5. **Better support medical, health and other related professionals** to improve the diagnosis and management of workers affected by silicosis.
 - a. Fund multi-disciplinary teams of medical professionals, to improve education of doctors and better manage the care of patients, including people with potential but yet to be accepted diagnoses of silicosis or other occupational respiratory diseases.
 - b. Develop, implement and maintain Australian-based education and upskilling for medical professionals involved in occupational health screening including radiologists, to ensure that they are able to maintain and build expertise to report chest imaging for occupational health screening programs.
 - c. Develop and disseminate information and education materials to health professionals and service providers who assess and support workers affected by dust diseases, as well as those who regulate businesses working with engineered stone.
6. Building on the early recommendations from the Interim Advice for a **strategic national approach to research** and the development of a national dust disease registry, and following initial investments, prioritise:
 - a. Enhancing silica and occupational respiratory disease research expertise in Australia and the evidence base, by identifying additional priority areas for further research funding, supporting collaboration and information sharing, and funding fellowships and scholarships.
 - b. Operationalising the National Occupational Respiratory Disease Registry as soon as possible, with an initial focus on mandatory reporting of silicosis, and voluntary reporting of other occupational respiratory diseases.
7. Establish a **cross-jurisdictional governance mechanism** to improve communication and information sharing, coordinate responses, and report on progress.
 - a. By the end of 2021, the Commonwealth Government, in consultation with jurisdictions, will outline a clear plan for implementation of the Taskforce's recommendations with specific milestones, responsibilities of parties, and outcome measures identified.
 - b. Annual reports should be provided to Health and WHS Ministers in all jurisdictions on the implementation of the recommendations and the effectiveness of measures in improving compliance to prevent dust disease in workers, with the first report due in July 2022.

In a November 2020 submission to the National Dust Disease Taskforce, the Australian Council of Trade Unions (ACTU) called for a ban on manufactured stone containing high levels of silica:

The principal action necessary is the implementation of a ban on the use of high silica content engineered stone. Unless we eliminate the installation of these products, we will face a similar legacy issue to that with asbestos containing materials, which is something we should be trying to avoid. Along with other organisations, unions have suggested a three-year, explicit, staged approach to a ban on the importation and manufacture of engineered stone with a high silica content.⁴⁶

The ACTU's call for a ban on high silica content engineered stone differs from the contingent approach adopted by the National Dust Disease Taskforce in Recommendation 1(d) of its *Final Report*. As set out above, Recommendation 1(d) calls for the commencement of the processes required to implement a ban on the importation of "some or all engineered stone products" *if*, by July 2024, regulatory compliance rates do not improve *and* preventative measures do not effectively protect workers.

The National Dust Disease Taskforce adopted its contingent approach because it requires further evidence on:

- Whether there is a threshold silica level in engineered stone that can be used safely, so that materials containing silica levels above this level could be classified as a banned product;
- Whether there are other compounds present that may also contribute to the development of silicosis, e.g. binding agents and resins, including their content levels, and whether there are safe levels for these ingredients;
- Whether enhanced regulatory and engineering control measures (once appropriate controls are implemented, and their effectiveness measured over time) are effective or not;
- The feasibility of banning as a regulatory intervention. Imported products are usually identified by tariff codes, not by percentages of their constituents. It is also difficult to measure silica content of materials when they cross the border, limiting the likelihood of identifying a product that is prohibited;
- Any potential for circumvention by manufacturers or importers, or the introduction of substitute products that may have harmful levels of silica content or other hazardous chemicals, or even products being recycled; and
- The availability of safer substitutes, and their uptake by the community.⁴⁷

⁴⁶ Australian Council of Trade Unions, [*Failure to Act: Submission by the Australian Council of Trade Unions to National Dust Disease Taskforce – Second Consultation Paper September 2020*](#), 26 November 2020, p 5.

⁴⁷ National Dust Disease Taskforce, [*Final Report to Minister for Health and Aged Care*](#), June 2021, p 27-28.

4.2 Reduction in the exposure limit

The silica exposure limit has been halved and there is a goal of further reductions:

In 2019, [Work Health and Safety (WHS)] Ministers agreed to reduce the eight-hour time weighted average for workplace exposure for respirable crystalline silica from 0.1 mg/m³ to 0.05 mg/m³, commensurate with levels set internationally. As of 8 June 2021, all jurisdictions, except Tasmania, have implemented the reduced value.

Ministers also agreed that further work be conducted on solutions to measurement limitations of respirable crystalline silica, with the aim to further reduce the Workplace Exposure Standard to a time weighted average of 0.02 mg/m³.⁴⁸

The reduction in the silica exposure limit effectively (but not expressly) bans dry cutting, grinding and polishing:

While an express ban on uncontrolled dry cutting of engineered stone with power tools has not been implemented in all jurisdictions, it is not permitted under WHS laws as dry cutting would immediately exceed the new Workplace Exposure Standard (and would otherwise breach the general duties of the WHS Act). On-tool water suppression or dust extractors (or local exhaust ventilation if on-tool dust extraction is not reasonably practicable) and respiratory protective equipment must be used. Safe Work Australia Members have agreed to amend the model WHS regulations to expressly prohibit uncontrolled dry cutting of engineered stone.⁴⁹

NSW expressly banned dry cutting from 1 July 2020.⁵⁰

The Cancer Council cautions that “there is no evidence to support a safe level of silica dust exposure”.⁵¹

4.3 Funding for additional research

On 11 May 2021, the Medical Research Future Fund (MRFF) announced \$6 million of funding into the prevention and treatment of silicosis under its 2020 Silicosis Research Grant Opportunity:

⁴⁸ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 76.

⁴⁹ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 76.

⁵⁰ [Work Health and Safety Amendment \(Silica Regulation 2020\)](#) and HIA, [New Silica Regulation- NSW](#), 24 June 2020.

⁵¹ Cancer Council, [Silica dust](#), October 2021 [website-accessed 24 September 2021].

Table 8: MRFF: 2020 Silicosis Research Grants⁵²

MRFF Initiative	Grant Opportunity	Funded Institution	Project Name	Chief Investigator/s	Total funding
Emerging Priorities and Consumer Driven Research	2020 Silicosis Research	The University of Queensland	Silicosis – Harnessing new ideas to conquer the re-emergence of an ancient lung disease – The SHIELD Study	Professor Daniel Chambers	\$2,216,631
Emerging Priorities and Consumer Driven Research	2020 Silicosis Research	University of Sydney	Transforming diagnosis of silicosis: a novel AI approach	Professor Patrick Brennan	\$1,481,686
Emerging Priorities and Consumer Driven Research	2020 Silicosis Research	Monash University	The NLRP3 inflammasome as a potential biomarker and therapeutic target for silicosis	Associate Professor Michelle Tate	\$645,764
Emerging Priorities and Consumer Driven Research	2020 Silicosis Research	University of Tasmania	The role of particle size in the pathogenesis of engineered stone-associated accelerated silicosis	Professor Graeme Zosky	\$665,843
Emerging Priorities and Consumer Driven Research	2020 Silicosis Research	Monash University	Emerging techniques for earlier diagnosis and assessment of severity and progression of artificial stone silicosis		\$994,642*
Total					\$6,004,565

4.4 SafeWork Australia

The following developments relating to SafeWork Australia are discussed by the National Dust Disease Taskforce in its *Final Report*:

- In September 2019, Safe Work Australia published national guidance material on [Working with silica and silica containing products](#).
- In June 2021, Safe Work Australia launched its [Clean Air Clear Lungs](#) campaign education and awareness campaign. The campaign will run until the end of 2021 and target “micro, small and medium-sized businesses in the construction, agriculture, manufacturing and engineered stone industries”.
- Safe Work Australia Members have “agreed to a model code of practice for managing the risks from respirable crystalline silica in engineered stone workplaces”. The model code of practice will be considered by WHS Ministers “later in 2021”.

⁵² Commonwealth Government, Department of Health, [National Dust Disease Taskforce](#), 14 July 2021 [website-accessed 27 September 2021].

- As of June 2021, Safe Work Australia Members have agreed to amend the model WHS regulations to expressly prohibit uncontrolled dry cutting of engineered stone.⁵³

SafeWork Australia has also published guidance materials on:

- [Health monitoring: Guide for crystalline silica](#) (18 February 2020)
- [Health monitoring: Guide for registered medical practitioners](#) (19 February 2020)
- Translations of its national guidance material *Working with silica and silica containing products* ([Greek](#), [Italian](#), [Chinese](#) and [Vietnamese](#)).

5. Developments in other jurisdictions

5.1 Queensland

The Queensland Government issued a safety alert for the dry cutting of engineered stone in 2018.⁵⁴ The reduced occupational exposure limit of 0.05mg/m³ was introduced on 1 September 2020.⁵⁵

Queensland's [Managing respirable crystalline silica dust exposure in the stone benchtop industry Code of Practice](#) commenced on 31 October 2019.⁵⁶ The Code of Practice requires health monitoring of workers in the stone benchtop industry (fabrication, processing, installation, maintenance or removal of both engineered and natural stone benchtops):

... Health monitoring is required to be conducted before a worker starts work, to establish a baseline from which changes can be detected (unless the worker has participated in health monitoring within the previous two years and results are available). This is followed by an annual standardised respiratory questionnaire and standardised respiratory function test; and chest X-rays every three years. As at June 2021, WorkCover had completed the health screening of 1,053 stonemasons exposed to crystalline silica dust from engineered stone.⁵⁷

Presently, it is accepted that there is no cure for silicosis because the damage done to the lungs as the disease progresses cannot be reversed.⁵⁸ As a result, the focus of treatment has been on slowing down disease progression and relieving symptoms.

⁵³ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 77.

⁵⁴ The Queensland Cabinet, [Safety alert issued for engineered stone benchtop workers](#), 18 September 2018.

⁵⁵ Queensland Government, Business Queensland, [Exposure limits for dust](#), 1 September 2020 [website-accessed 1 September 2020]

⁵⁶ Queensland Office of Industrial Relations, Workplace Health and Safety Queensland, [Managing respirable crystalline silica dust exposure in the stone benchtop industry Code of Practice](#), 2019.

⁵⁷ National Dust Disease Taskforce, [Final Report to Minister for Health and Aged Care](#), June 2021, p 77.

⁵⁸ See, for instance, American Lung Association, [Treating and Managing Silicosis](#), 12 March 2020 [website - accessed 24 September 2021] and United Kingdom National Health Service, [Silicosis](#), 1 July 2021 [website-accessed 24 September 2021].

On 24 November 2020, the Queensland Government announced that a world-first treatment, known as whole lung lavage, was being developed in a collaboration between the Prince Charles Hospital and the University of Queensland.⁵⁹

The researchers developed completely new diagnostic techniques that allowed clinicians to directly measure silica levels in patient's lungs. This new diagnostic technique enables researchers to "use the whole lung lavage treatment to wash out damaging silica crystals and damaged cells, effectively 'rinsing out' the lungs in what can be a four to five-hour procedure."⁶⁰ According to the Queensland Government's announcement, the protocol for the new treatment has been provided to clinicians in Sydney and Melbourne.

5.2 Victoria

On 21 August 2019 a ban on the uncontrolled dry cutting of engineered stone came into effect across Victoria.⁶¹

A reduced exposure standard came into effect in Victoria on 17 December 2019.⁶²

In February 2020, Work Safe Victoria published a [*Compliance Code on Managing exposure to crystalline silica: Engineered stone*](#).⁶³

As discussed above (at 3.2), Work Safe Victoria is funding health screening for workers who may have been exposed to silica dust. One significant implication arising from the results of the screening project was that Lung Function Tests (LFT) and x-rays may be insufficient sensitive to detect early silicosis disease:

Analysis of screening investigations for silicosis have demonstrated concern about whether the LFT and chest x-ray have sufficient sensitivity to detect early disease. The implementation of [High Resolution Computed Tomography (HRCT)] screening for silicosis does however carry additional costs and increased radiation exposure in comparison to chest x-ray. Evidence to support a recommended change in policy would be strengthened by undertaking a formal study with independent classification of chest imaging by a group of expert radiologists.⁶⁴

This WorkSafe Victoria finding is consistent with an August 2021 literature review published in the International Journal of Environmental Health.⁶⁵ The literature review

⁵⁹ Queensland Government, Metro North Health, [*World-first treatment for silicosis underway at The Prince Charles Hospital*](#), 24 November 2020.

⁶⁰ Queensland Government, Metro North Health, [*World-first treatment for silicosis underway at The Prince Charles Hospital*](#), 24 November 2020.

⁶¹ WorkSafe Victoria, [*Uncontrolled dry cutting of engineered stone banned*](#), 21 August 2019.

⁶² HIA, [*Reduced Silica Exposure Standard Now in Force – Vic*](#), 19 December 2019.

⁶³ Work Safe Victoria, [*Compliance Code on Managing exposure to crystalline silica: Engineered stone*](#), February 2020.

⁶⁴ Monash University, [*Final report of phase 1: Silica associated lung disease health screening research project*](#), November 2020, p 44.

⁶⁵ Austin EK, James C and Tessier J, [*Early Detection Methods for Silicosis and Internationally: A Review of the Literature*](#), *International Journal of Environmental Research and Public Health*, 18(15), August 2021, p 8,123.

found that there is a need to “standardise the process of respiratory surveillance”.⁶⁶ It further found that “X-ray was determined as not sufficient in detecting silicosis” and “HRCT is recognised as the optimal method, however it is not always available”.⁶⁷ Other techniques currently under investigation, such as biomarkers and Exhaled Breath Condensate, could potentially become useful in the future; although, at present, they have not been validated.⁶⁸

The WorkSafe Victoria findings are also consistent with the Royal Australian and New Zealand College of Radiologists’ *Imaging of Occupational Lung Disease Position Statement*.⁶⁹

On 28 February 2021, Premier Daniel Andrews discussed the measures being undertaken in Victoria to assist workers with silicosis and prevent future cases of silicosis:

More than 1,000 workers from the stonemason industry have now registered for a free health check-up ... The free health screenings were established in May 2019 for an estimated 1,400 past and present workers in the Victorian stonemason industry. ...

A fast-tracked compensation process is in place for affected workers and their families so they can get the personalised treatment and support they need.

The government’s action plan includes the development of Australia’s first licensing scheme for engineered stone, a state-wide ban on the uncontrolled dry cutting of the product, and being the only jurisdiction to immediately adopt the new, reduced Workplace Exposure Standard for crystalline silica.

A tough enforcement blitz has seen more than 1,000 silica related visits to workplaces since 1 July 2019 and WorkSafe inspectors issuing more than 450 compliance notices ordering employers to improve their safeguards against exposure to deadly silica dust.⁷⁰

On 16 September 2021, the Victorian Minister for Workplace Safety announced “Australia’s first dedicated public occupational respiratory clinic”:

Stonemasons at risk of silicosis will be able to access free world-class health screenings and treatments thanks to this landmark partnership between WorkSafe and the Alfred. For the first time, eligible workers in the stonemason industry can now undergo a full health assessment for silicosis and receive both their health outcome

⁶⁶ Austin EK, James C and Tessier J, [Early Detection Methods for Silicosis and Internationally: A Review of the Literature](#), *International Journal of Environmental Research and Public Health*, 18(15), August 2021, p 8,123, at Part 4.5

⁶⁷ Austin EK, James C and Tessier J, [Early Detection Methods for Silicosis and Internationally: A Review of the Literature](#), *International Journal of Environmental Research and Public Health*, 18(15), August 2021, p 8,123, at Part 4.5

⁶⁸ Austin EK, James C and Tessier J, [Early Detection Methods for Silicosis and Internationally: A Review of the Literature](#), *International Journal of Environmental Research and Public Health*, 18(15), August 2021, p 8,123, at Part 4.5.

⁶⁹ Royal Australian and New Zealand College of Radiologists, [Imaging of Occupational Lung Disease Position Statement](#), 4 October 2019, p 4-5.

⁷⁰ Andrews D, [Silica Health Assessments Reach One Thousand](#), 28 February 2021 (media release).

and a treatment plan during a one-day clinic visit. The clinic will also provide an ongoing centre for those with a positive diagnosis to manage their illness.⁷¹

During the announcement, the Minister noted that more than 90 per cent of Victoria's estimated 1,400 past and present stonemasons had registered for screening.⁷²

WorkSafe Victoria, on behalf of the Victorian Government, is preparing to strengthen the regulatory regime by introducing the [Occupational Health and Safety Amendment \(Crystalline Silica\) regulations 2021](#).⁷³ According to WorkSafe Victoria, the regulation will commence in late 2021 and aims to improve risk assessment and control measures, in order to reduce exposure to silica dust. Under the proposed regulations, a licencing system will be introduced for workplaces that use engineered stone.⁷⁴

5.3 South Australia

As discussed above (at 3.3), South Australia is conducting an engineered stone and construction worker health screening program and, as part of that program, have developed a Silicosis database.⁷⁵ The program included the development of a Respirable Crystalline Silica Health Assessment Tool.⁷⁶

SafeWork SA has announced that, effective from 1 July 2020, it implemented the nationally agreed reduced workplace exposure limit for respirable silica of 0.05mg/m³ over an eight hour time weighted average.⁷⁷

SafeWork SA has been conducting a regular compliance program; with 102 compliance breaches identified in 2020-21:

SafeWork SA conducted 199 site visits and 71 compliance audits during the campaign.

A total of 102 Statutory Notices were issued where breaches of the work health and safety legislation was identified, consisting of 95 Improvement Notices and 7 Prohibition Notices.

The largest area of non-compliance identified in the campaign was the failure to conduct air monitoring to determine the airborne concentration of substances or mixtures to which a workplace exposure limit (WEL) applies.

⁷¹ Stitt I, [Ministerial Statements: Silicosis](#), Legislative Council (Victoria), *Hansard*, 16 September 2021, p 3,305.

⁷² Stitt I, [Ministerial Statements: Silicosis](#), Legislative Council (Victoria), *Hansard*, 16 September 2021, p 3,306.

⁷³ WorkSafe Victoria, [Proposed OHS Amendment \(Crystalline Silica\) Regulations 2021](#) [website-accessed 24 September 2021]

⁷⁴ See WorkSafe Victoria, [Summary of Proposed Changes](#), no date, [website-accessed 28 September 2021].

⁷⁵ Wellbeing SA, [Silicosis Health Screening Program](#), September 2020.

⁷⁶ Wellbeing SA, [Silicosis Health Screening Program](#), September 2020, Appendix 1, p 22.

⁷⁷ Government of South Australia, SafeWork SA, [Respirable crystalline silica](#), no date, [website-accessed 28 September 2021].

30 stone benchtop [businesses] were audited, resulting in the issue of 69 Statutory Notices, the majority of which were for failing to conduct air monitoring, identifying the hazards of [respirable crystalline silica], and implementing control measures.⁷⁸

In 2019, 173 Statutory Notices were issued and it was recommended that SafeWork SA undertake an unannounced follow-up compliance campaign.⁷⁹

5.4 Western Australia

As discussed above (at 3.4), Western Australia is conducting a health screening project in conjunction with the [Institute for Respiratory Health](#).

On 27 October 2020 the Western Australian Government announced that the workplace exposure standard for respirable crystalline silica had been halved to 0.05 milligrams per cubic metre.⁸⁰

On 26 November 2020 it was reported that a Perth man had commenced the first silicosis workers compensation proceedings in the State related to engineered stone.⁸¹

On 15 January 2021, the Western Australian Government announced that it “has made an important change to the Occupational Safety and Health Regulations 1996 that will increase protections for workers exposed to respirable crystalline silica in the engineered stone industry.”⁸² The announcement continued:

As from today, with a three-month grace period, employers will be required to provide a low-dose high-resolution computed tomography (HRCT) scan, supervised by an appointed medical practitioner, instead of the previously required chest X-ray.

HRCT scans are superior to chest X-rays and will assist in the early detection of silicosis.

Silicosis is a serious and potentially lethal occupational lung disease caused by exposure to respirable crystalline silica in industries such as engineered stone product manufacturing, installation, stonemasonry and construction work.

The amendment will assist in the early detection of silicosis and follows the McGowan Government's recent decision to halve the workplace exposure standard for respirable crystalline silica to further protect workers.⁸³

⁷⁸ Government of South Australia, SafeWork SA, [Respirable Crystalline Silica Campaign Report 2020-21](#), p 3.

⁷⁹ Government of South Australia, SafeWork SA, [Respirable Crystalline Silica Campaign Report 2020-21](#), p 5.

⁸⁰ Johnston B, [Workplace exposure standards for silica and coal dust halved](#), 27 October 2020 (Media Statement).

⁸¹ Mitsopoulos N, [Perth father first in Western Australia to launch legal action over silicosis related to engineered stone](#), ABC News, 26 November 2020.

⁸² Johnston B, [Health surveillance requirements for silica strengthened](#), 15 January 2021 (Media Statement). See also: [Schedule 5.3](#) of the [Occupational Safety and Health Regulations 1996](#) (WA).

⁸³ Johnston B, [Health surveillance requirements for silica strengthened](#), 15 January 2021 (Media Statement). See also: [Schedule 5.3](#) of the [Occupational Safety and Health Regulations 1996](#) (WA).

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