

NSW Government Submission

National Dust Disease Taskforce Consultation Paper
November 2020



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Introduction

The NSW Government recognises the work that the National Dust Diseases Taskforce (the **Taskforce**) has undertaken, and continues to undertake, to better understand, prevent and respond to occupational dust diseases.

The Government notes that the Taskforce conducted first-phase consultation in October and November 2019. The Taskforce then incorporated the views and insights provided by community and stakeholders in its December 2019 Interim Advice to the Commonwealth Minister for Health (the Interim Advice). We welcome the opportunity to comment on the recommendations of the Interim Advice.

The Government supports the implementation of all five of those recommendations, particularly the call for the establishment of a National Dust Disease Registry with a focus on accelerated silicosis and its connection to engineered stone.

The Government also endorses the development of national, consistent strategies to better inform Australian workplaces about not only dust diseases but also other, emerging occupational diseases.

The Government supports the implementation of these recommendations as reinforcing the significant work already underway in NSW to address occupational dust diseases.

Responses to Questions

1. From a regulatory perspective, what should be considered ‘engineered stone’? Please provide the rationale for your recommendation.

In NSW, the *Work Health and Safety Amendment (Silica) Regulation 2020* (NSW), which amended the Work Health and Safety Regulation 2017 (**the Regulation**) to create an offence of uncontrolled dry cutting, uses the term ‘manufactured stone’ rather than ‘engineered stone’. ‘Engineered stone’ is currently not a defined term within the Regulation.

However, a National Code of Practice for *Managing the Risks of Respirable Crystalline Silica from Engineered Stone in the Workplace* (**the Code**) is currently under development by Safe Work Australia, to support the provisions of the model work health and safety (**WHS**) legislation and to assist in establishing the parameters of compliance for those undertaking such work. Included within the Code is a definition of ‘engineered stone’.

It is recommended that the Taskforce refer to the definition of ‘engineered stone’ in the Code, as agreed to by Safe Work Australia members.

A consistent national definition of ‘engineered stone’ in the Code, supported by the model WHS legislation, will be critical to the effective management and regulation of engineered stone.

2. Various jurisdictions have already banned uncontrolled dry processing of engineered stone. What other practical measures could be introduced to reduce worker exposure to silica dust?

Practical measures that can be implemented to reduce worker exposure to silica dust include education, compliance and enforcement activities. This can be further supported with effective engineering and machinery design and the appropriate ventilation of workplaces.

The NSW Government has already created a specific offence for the uncontrolled dry cutting of engineered stone through the *Work Health and Safety Amendment (Silica) Regulation 2020*.

With regard to additional measures, SafeWork NSW continues to support Safe Work Australia's development of the Code, which will provide guidance on the content of health and safety duties at engineered stone sites, including: control measures to prevent worker exposure to silica dust, and existing obligations to conduct air monitoring under the Regulation.

SafeWork NSW continues to use its existing resources to regulate the engineered stone industry and enforce NSW WHS laws. The Government has already made legislative amendments to strengthen SafeWork NSW's regulatory enforcement powers and the monitoring of health and safety standards in the engineered stone industry. SafeWork's capacity to undertake its role as a WHS regulator is regularly reviewed and enhanced as appropriate.

In accordance with the *2017-2022 Hazardous Chemicals and Materials Exposures Baseline and Reduction Strategy (2017-22 Strategy)*, SafeWork NSW will continue to conduct educational, compliance and enforcement activities to ensure that persons conducting a business or undertaking (PCBUs) at engineered stone fabrication sites are fulfilling their WHS duties, including air monitoring where appropriate.

3. Relevant to dust-related diseases, what mechanisms exist or could be further developed to ensure effective enforcement of regulations and codes of practice?

The Regulation contains a range of provisions to protect workers from airborne contaminants, including exposure standards, with associated penalties for both individuals and corporate bodies.

Ensuring that PCBUs are provided with appropriate guidance about workplace dusts is critical to the effective enforcement of requirements.

The Code is intended to provide detailed information on how PCBUs may meet the requirements of WHS legislation. The Code is aimed to help define compliance for specific work practices—that is, to set minimum standards of behaviour when undertaking work.

The Code will recognise that alternate methods of achieving the required health and safety outcomes may be implemented. As such, compliance with codes of practice is not mandatory, provided that any alternate compliance approach results in an equivalent or higher standard of WHS than that suggested by the code of practice.

An inspector may refer to a code of practice when issuing an improvement or prohibition notice. It is important to note that, under the *Work Health and Safety Act 2011 (the Act)*, codes of practice are admissible in court proceedings. Further, courts may have regard to a code of practice as evidence of what is known about a hazard, risk or control, and rely on it to determine what is 'reasonably practicable' in the circumstances to which the code relates.

4. Hazard elimination sits at the top of the hierarchy of control measures (see <https://www.safeworkaustralia.gov.au/risk> for an example of a hierarchy of control measures). Do you consider a ban (either total or partial) of high silica content engineered stone material, a proportionate and practical response to the emergence of silicosis in the engineered stone benchtop industry in Australia?

There are a number of practical limitations to the implementation of a ban on engineered stone materials. This includes that workers can be exposed to respirable crystalline silica when working with materials other than engineered stone, including Sydney sandstone. High levels of silica are

also present in other natural stones and building products to which workers are exposed in various industries, including tunneling, stonemasonry, foundry moulding, mining and building.

Silicosis diagnoses and claims are also not restricted to engineered stone. Any ban that was to be implemented would need to recognise this, particularly if the ban was to be based on the silica content of a material.

On the question of a state-wide or partial ban on engineered stone products, it is important to note that engineered stone products are not manufactured in Australia but imported. It may be the case that, to be effective, any ban would require Commonwealth action. It is noted that, for example, in the case of asbestos, importation is prohibited under the *Commonwealth Customs (Prohibited Imports) Regulations 1956*.

The Government recognises that bans are considered to be a last resort, when effective risk controls are not available. In NSW, field observations by SafeWork NSW have evidenced that exposure can be managed with appropriate risk controls in place.

An example of this can be seen in the Government's ban of the practice of dry cutting. This came into effect on 1 July 2020. In NSW, it is now an offence for a PCBU to direct or allow a worker to cut, grind, drill or polish engineered stone (noting that it is described as 'manufactured stone' in the Regulation) containing crystalline silica with a power tool, unless; the worker is using respiratory protective equipment and additional controls are in place and properly designed, installed, used and maintained.

SafeWork NSW has been enforcing compliance on uncontrolled dry-cutting of engineered stone by issuing prohibition notices and on-the-spot fines whenever it encounters the practice, and to ensure that workers are working safely with engineered stone in general.

5. The Taskforce is aware some jurisdictions are considering a licensing scheme for engineered stone. Do you consider this a proportionate and practical response in relation to the following:

- a. restricted (under licence) or otherwise prohibited manufacture in Australia?**
- b. restricted (under licence) or otherwise prohibited importation and distribution?**
- c. fabrication and installation performed only under licence?**
- d. licence required after installation modifications or repurposing of installed engineered stone?**

The NSW Legislative Council's *2019 Review of the Dust Diseases Scheme* recommended that the Government introduce a legislative amendment to ensure all engineered stone fabrication sites and employers are registered with SafeWork NSW. The Government did not support this recommendation.

Through SafeWork NSW, there are a number of mechanisms in place to ensure the appropriate controls over the engineered stone industry.

SafeWork NSW is able to obtain information about the location of engineered stone fabrication sites by issuing notices to the importers of engineered stone. As a result, SafeWork NSW is aware of, and has visited, the location of all engineered stone fabrication sites in NSW.

In accordance with the *2017-22 Strategy*, SafeWork NSW will continue to conduct educational, compliance and enforcement activities to ensure that PCBUs on engineered stone fabrication sites are fulfilling their WHS duties, including air monitoring where appropriate.

SafeWork NSW will also continue to support Safe Work Australia's development of the Code, which aims to provide guidance on the content of health and safety duties at engineered stone sites, including existing obligations to conduct air monitoring.

6. What learnings from the re-emergence of accelerated silicosis as an occupational health and safety risk can be applied to enhance workplace health and safety systems more generally?

The re-emergence of accelerated silicosis as an occupational health and safety risk emphasises that dust control in all workplaces is critical.

SafeWork NSW has launched the *NSW Dust Disease Strategy 2020-2022 (the 2020-22 Strategy)* to provide NSW workers and businesses with a coordinated approach to protect workers from illness, injury and death from hazardous dusts including asbestos, silica, wood and other dusts. The 2020-22 Strategy is the Government's roadmap to stamp out illness, injury and death caused by dust.

The three key areas outlined within the 2020-22 Strategy are asbestos, silica, and wood and other dusts. However, the controls discussed within can be applied to any workplace dust.

With improved guidance, controls and regulatory framework in place to combat the re-emergence of accelerated silicosis, it is likely that the response to all dust diseases will be substantially enhanced. As such, once PCBUs implement effective and appropriate controls for one (i.e. silica), then controls are effectively in place for all other workplace dusts.

The re-emergence of accelerated silicosis highlights the benefits of applying precautionary principles prior to the release of new building products onto the market. The early detection of health and safety risks assists in the development of education and guidance for product users.

Workforce Organisational Culture

7. Given the nature of the building and construction industry, and the increase in the number of smaller, often independent businesses and suppliers, what particular strategies and supports are needed to ensure that these businesses are able to provide adequate protection for workers?

The NSW Government is keenly aware of the need to promote safe practices for workers in small businesses, including independent contractors and installers in the engineered stone industry.

Education is fundamental in informing PCBUs of the dangers of respirable crystalline silica and working safely with engineered stone. Reinforcing education and training on a regular basis ensures that workers maintain their knowledge and are informed of any changes to work, health and safety practices. The development of the Code will assist in informing businesses and workers on how to comply and safely operate with engineered stone materials.

Given the nature of the building and construction industry, in which there are frequently other tradespersons, administrative persons or cleaning staff on site, it is important that strategies consider the exposure of bystanders.

In order to ensure that industry is effectively equipped to manage and protect against the risks associated with dust diseases, a multi-pronged approach is recommended. This includes education and compliance, coupled with financial incentives, research, and legislative review.

This approach has been taken by SafeWork NSW. SafeWork NSW's 2017-22 Strategy outlines the plan for addressing the harms caused by respirable crystalline silica, which, under the Strategy, is a top-two priority chemical. The Strategy covers four key components – awareness and education, compliance (inspector visits), research, and legislative review.

The awareness component of the Strategy includes a two-phase campaign involving video safety alerts and radio advertisements in multiple languages, social media posts, targeted industry presentations, distribution of over 3,000 safety factsheets to identified businesses, a Silica Symposium and state-wide roadshow, and an on-demand webinar series.

As a part of enhanced compliance activities, SafeWork NSW has visited all 246 engineered stone fabrication sites in NSW and continues to progress on the second round of visits. These visits are intended to ensure that sites are operating in a safe and compliant manner – with notices issued for unsafe activities. In the first round of visits, 699 notices were issued (656 improvement notices and 43 prohibition notices). In the second round (approximately 50 per cent of which have been completed), 55 new notices have so far been issued (47 improvement and 8 prohibition).

SafeWork NSW, from 1 January to 30 June 2020, offered a silica rebate of up to \$1,000 to businesses in the engineered stone industry for the purchase of safety equipment. Some 80 rebates were paid under this program – a total of \$75,942. This has resulted in a \$135,185 investment in safety solutions in the industry. Businesses continue to be able to access a rebate of up to \$500 offered by SafeWork NSW to small businesses for the purchase of safety equipment.

An independent review of SafeWork NSW's implementation of the 2017-22 Strategy found that over 90% of those surveyed had identified at least one change in the approach of their management of silica, with the biggest improvement coming from within the engineered stone industry, where three in four of those surveyed reported that new safety equipment or tools had been purchased.

8. What health and safety strategies can be improved?

Health monitoring of workers in the engineered stone industry assists in the early identification of silicosis. Early detection enables regulators and statutory workers compensation schemes to support workers in improving their WHS knowledge or, for those workers who elect to leave the industry, retraining and assistance in finding suitable employment. This is an area wherein strategies can be improved.

The onus to provide health monitoring under the model WHS legislation currently lies with PCBUs and employers.

The introduction of a structured national program which seeks to ensure all workers at risk of silica dust (including installers and administrative staff) are provided with regular health monitoring is recommended. This program would enhance the current practices that are in place in each jurisdiction.

Additionally, air monitoring can only be conducted by a competent person, such as an occupational hygienist. Accredited occupational hygienists can be found on the Australian Institute of

Occupational Hygienists' website (www.aioh.org.au). As a part of this process, samples are collected and sent to a laboratory for testing, which can take up to a month to receive findings.

In an attempt to bridge this gap, SafeWork NSW in partnership with the Centre for WHS is undertaking world-leading research into the development of a real-time wearable silica exposure detection device.

The research has reached a critical milestone with the testing of the prototype at Stage 1 proven to accurately measure the Australian Workplace Exposure Standard (WES) of 0.05mg/m³ (8-hour time weighted average) in a laboratory setting as well as at a number of worksites, including quarries, and brick production, tile processing and engineered stone processing facilities.

The research is being conducted in partnership with Trolex Nome, whose UK parent company Trolex has 60 years' experience in developing safety technology for the mining, tunnelling, oil and gas industries. The project has built upon initial research conducted by Trolex in conjunction with the University of Hertfordshire.

9. What return to work support is available or should be considered to assist workers following a diagnosis of silica-associated disease, including for those who are unable to return to the engineered stone industry?

The NSW State Insurance Regulatory Authority (SIRA) offers [programs to support](#) injured people recover at work. These programs include, for example, modification to worksites, purchase of equipment, funding for retraining, and arranging work experience with host employers. The cohort affected by silica-associated disease is often younger, so programs of this nature are well suited to supporting their recovery and retraining. However, claimants under the dust diseases legislation are not defined as workers for the purposes of the workers compensation acts, and so are ineligible for the SIRA-funded programs.

In NSW, the number of workers with signs of silicosis electing to leave occupations in which they will continue to be exposed to silica dust is low. This is reflected in the low uptake of workers with silicosis participating in return to work programs. A combination of other factors may contribute to these figures, including a lack of suitable duties available with the worker's current employer, and lack of other employment opportunities for workers residing in regional areas, or for whom English is not their first language. Additional support is required for workers who choose to remain in the industry to ensure that workers, including those engaged in suitable duties, use the appropriate PPE for to the nature of these working environments.

In Queensland, approximately 75% of workers diagnosed with silicosis move onto a return to work program due to treating doctors recommending that the worker leave the engineered stone industry. In order to progress towards nationally consistent results, it is suggested that robust return to work programs are implemented, including:

- Effective work trial programs to assist workers with silicosis in obtaining suitable duties with a new employer where they will not be exposed to respirable crystalline silica;
- Peer-to-peer programs to support workers throughout their return to work journey;
- Education and information promoting the positive benefits derived by workers who participate in return to work programs – targeted at relevant stakeholders including medical professionals, legal representatives, unions and support groups;
- Vocational support programs where prospective employers are incentivized to provide suitable duties for workers with silicosis; and
- Introduction of harmonised workers' compensation legislation across Australian jurisdictions.

10. What are examples of good dust exposure workplace monitoring processes? (Where possible please provide evidence to support the effectiveness of these processes).

The research being undertaken, as outlined in the response to Question 8, is considered to have merit in improving the quality of dust exposure workplace monitoring processes. The development of real-time silica exposure detection devices is a substantial step in the right direction for workplace monitoring processes.

Resourcing and Capability

11. What specific resources (e.g. information, education, other supports etc.) are required, that are not currently available, for small to medium sized businesses, to ensure that owners and staff are fully informed of the availability and correct use of control methods, including by workers from non-English speaking backgrounds?

The NSW Government recognises that readily accessible guidance is critical to effectively educating workers.

There are currently extensive resources on SafeWork NSW's crystalline silica webpage, which offer advice on implementing the correct control methods across different industries. SafeWork NSW also links to existing Safe Work Australia guidance on working with silica and silica-containing products, which was revised and updated in consultation with jurisdictions in September 2019. SafeWork NSW is currently providing input on the Code, which is expected to offer further guidance to businesses on how to comply with their health and safety obligations.

SafeWork NSW has previously run an advertisement on silica awareness translated into five languages which aired on SBS Radio. Its 'Working safely with crystalline silica' video safety alert is translated into Arabic, Vietnamese and Mandarin. Its factsheets, which have been distributed to identified businesses and via relevant industry associations and Government departments, are translated into Arabic, Mandarin, Hindi and Vietnamese.

SafeWork NSW maintains a dedicated webpage for crystalline silica. SafeWork's 2017-22 Strategy, has a target to reach 10,000 interactions with businesses that work with silica. As of the mid-point review of the 2017-22 Strategy, over 5,500 interactions have been recorded. Publications, radio advertisements and video safety alerts have been translated into various languages. In addition, the entire SafeWork NSW website can convert to languages by using the button located in the top right corner of the webpage 'select language.'

As mentioned above, SafeWork NSW has recently released its NSW Dust Strategy 2020-2022, with further materials to be developed. This new Strategy provides NSW workers and businesses with a coordinated approach to protect workers from illness, injury and death from hazardous dusts including asbestos, silica, wood and other dusts. Additional resources are intended to be developed to support PCBUs.

12. With a specific focus on dust related diseases, what mechanisms exist that could be used as a basis for providing a coordinated national system with representation across stakeholder disciplines for identifying and communicating emerging issues?

The Heads of Workplace Safety Authorities (HWSA), made up of representatives from WHS regulators across Australia and New Zealand, maintain a silica working group for WHS and

workers compensation regulators across jurisdictions. The introduction of health regulators to this working group could assist in the coordination of a national system.

Similarly, there is the possibility that Safe Work Australia, which includes members representing the Commonwealth and each state and territory, as well as members representing the interests of both workers and employers, could be utilized as a forum in which to consider emerging issues.

It is important to note that Safe Work Australia is focused on the development and evaluation of national policy and strategies, and the model WHS legislative framework. As such, any discussions may be limited to a focus on issues related to the regulation of workplace health and safety.

The Australian Institute of Health and Welfare (AIHW) is a national body that collects and manages health data. The AIHW could perform the function of collecting and managing data relating to newly diagnosed dust diseases in the population, if given the appropriate funding support and the relevant data, as supplied by the States and Territories.

At a state level, the NSW Government has instituted reforms to improve the interaction and coordination of health and safety regulators. From 1 July 2020, silicosis is notifiable by all NSW medical practitioners to NSW Health as a scheduled medical condition under *Part 4 of the NSW Public Health Act 2010*.

The Regulation imposes a duty on PCBUs to provide health monitoring to workers. This, along with the strategies mentioned below, contributes to the whole-of-government approach to improve the identification and assessment of workers at risk of exposure.

NSW Health, SafeWork NSW and icare have a working partnership to actively identify new cases of silicosis resulting from respirable crystalline silica exposure in the engineered stone industry. New cases have been identified through the:

- icare lung screening health monitoring service;
- SafeWork NSW WHS Roadmap 2022; and,
- An analysis of hospital admissions and deaths.

National or state-based disease registries may also serve as a systematic surveillance system which collects information about all new diagnosed cases in the population. They provide a basis for the calculation of incidence and prevalence of diseases and additional indicators, such as survival rates and mortality.

A coordinated legislative approach to the use of register data and screening data may provide a comprehensive framework to present a fuller picture of a disease. For example, the Cancer Institute NSW collects and manages a significant amount of data about cancer incidence, outcomes, screening, trends and risk factors.

The establishment of a centralised system for coordinating stakeholders, data and emerging issues for each state or territory could be an effective mechanism in identifying and communicating emerging issues.

Research and Development

13. What industry mechanisms could be introduced to ensure workers have appropriate competencies for handling engineered stone or performing processes that generate silica dust?

The Engineered Stone Industry Taskforce, convened by SafeWork NSW in 2018-19, recommended that a mandatory silica syllabus be introduced to all relevant trade certificate training, and that a general awareness course be developed for those not seeking a formal trade.

The National Industry Skills Council for Construction is set to include silica education in all national trade courses. A stand-alone unit of competency (for those not seeking a full trade qualification) is also under development, with the accredited 10830NAT Course in Crystalline Silica Exposure Prevention already available and being delivered by three Registered Training Organisations.

Further, the Code is currently under development by Safe Work Australia to assist in establishing the minimum behavioral and operational standards for compliance with WHS legislation, with regard to interacting with silica.

14. What are the specific challenges related to linking workplace exposure with disease development (at a later date) and how should these be addressed?

As dust diseases have traditionally been long latency diseases, it can be a significant challenge to find causal links or determine when exactly workplace exposure has been a factor in the development of the disease. This is exacerbated by complex and detailed work histories (multiple workplaces/transient workers over an extended period, many no longer in operation or having changed ownership or moved overseas), which are further complicated if there is no air monitoring or health screening history over the periods in question.

As an example, SafeWork NSW has so far reviewed 66 of 156 matters, with only two being accepted for full investigation where sufficient evidence/causation could be attributed to a particular workplace(s).

Linking workplace exposure with disease development has also been impacted by limited access to medical and occupational exposure information, as well as recall bias for those whose exposures occurred decades prior.

Industries typically linked to silica exposures are those dealing in site preparation, including excavation, demolition in the construction industry, infrastructure development and quarries. Although the exposure pattern in these industries and at the individual level are variable, they normally display prolonged low to moderate exposures over the course of a career with disease presenting after decades of exposure.

A lack of comprehensive, well-classified exposure data to date has made it difficult to track industry, job and individual trajectories and establish risk estimates for the development of dust diseases. This is particularly true of contract and itinerant workers, and depends significantly on both employer and employee compliance with screening and reporting requirements.

Variable physicochemical composition of engineered stone products may cause highly variable toxicity profiles and pathologic consequences. To date there is little understanding of how this contributes to the pathogenesis of silicosis.

These issues may be addressed by implementing nationally consistent health monitoring guidelines. The guidelines might include information on the method and frequency of health

monitoring for workers using engineered stone products. It is further recommended that a central repository be established to record health monitoring results and occupational histories.

Endorsement and introduction of a peak and short-term exposure limit to enable real-time monitoring of potential exposure and assessment of risk should also be considered.

15. What are three key pieces of information about dust disease that you would like to see collected at a national level? What are the three key uses of the information collected at a national level?

Data collection at a national level should not be limited. Data relating to the incidence of new cases of silicosis and other trends has the potential to assist governments across Australian jurisdictions to more flexibly and responsibly respond to emerging issues, plan for future services and provide appropriate support for affected individuals and their families.

Further, the provision of data should relate to a clear mandate – this will ensure that the most relevant and appropriate information is being collected. It is important to note that, depending on the specific needs or perspective of those accessing the data that is collected, different information and data sets may be considered as 'key'. For example, information that is useful for the WHS regulator may not be as applicable for medical practitioners. Given that dust diseases are acquired through exposures in the workplace and are preventable through work health and safety interventions, the emphasis should be on collection of information to assist work health and safety regulators.

The Government considers the collection of the following information as key in supporting agencies in effectively responding to the issue of occupational dust diseases:

- Full occupational histories of those working in industries at high risk of exposure to hazardous dusts, including industry and workplace information (i.e. engineered stone, tunneling, mining, quarrying, foundries, construction);
- Personal exposure measurements – including results from mandatory notification of exposure standard exceedance to the various regulatory bodies;
- Detailed health and demographic information such as age, gender, ethnicity, comorbidities, etc;
- A breakdown of whether a person has acute, accelerated or chronic silicosis, including percentage of impairment;
- Incidence of dust diseases, including dust disease type;
- Cohort profiling information by specific dust disease type; and
- Clinical information to monitor and analyse severity, mortality and survival.

The collection of this information would enable national monitoring and analysis of the incidence of dust diseases and therefore an understanding of trends across all jurisdictions. It could be used to help prioritise action and focus areas, enabling a better understanding of who is affected – with demographic and workplace patterns identified. Further, the regular collection and provision of this information would assist in the commencement of WHS investigations, allowing for enhanced and targeted compliance operations to be undertaken.

16. What alternative products are currently available which could replace high silica-content engineered stone? How could we drive innovation in relation to products?

No comment.

17. The interim advice identified immediate research priorities which has led to a research funding grant opportunity announced by the Medical Research Future Fund and National Health and Medical Research Council. Are there other research priority areas that have not been identified in the interim advice that should be considered, and why? What research areas should be a priority following this first round of research funding?

Before considering further research, an opportunity exists to consolidate research that has already been undertaken or commenced. It is recommended that a review of translational activities is commenced to ensure the evidence gathered can be mobilised and actioned for the benefit of workers and employers. Further, a national approach for funding research into silicosis to encourage jurisdictions to communicate and work together is supported.

Research priorities should account for existing disease surveillance systems, so as not to duplicate efforts. For example, case finding is achieved in NSW through an existing health monitoring and screening program for silicosis. This provides a more comprehensive (able to identify more cases) and more rigorous (longitudinal governance and resourcing) method for finding new cases of silicosis, compared to case finding studies in the clinical setting, which can be limited by duration and methodology (such as ability to recruit participants).

As per the response to Question 8, SafeWork NSW in partnership with the Centre for WHS is undertaking world-leading research into the development of a real-time wearable silica exposure detection device.

Research should be undertaken into the adequacy and harm of current screening processes (radiation), and whether other biomarkers that have less intrusive testing can detect the disease (e.g. CC16 protein research by India, Exhaled Breath Condensate by Finland and Taiwan, etc).

From a return to work perspective, research aimed at supporting consistent return to work rates for workers with silicosis, through the understanding of the different demographics and workforce profiles of each Australian jurisdiction, would be beneficial.

A review of the dust diseases research landscape (national and international) also suggests the need for innovative research into non-medicinal treatments and improvements to patient care, including quality of life and wellbeing. This is particularly pertinent for the relatively new silicosis cohort that has developed as a result of silica exposure within the engineered stone industry. There appears to be limited original research publications dedicated solely to clinical trials, patient care or quality of life research into silica-related disease. Additionally, a longitudinal analysis of adverse health outcomes in those with exposure to both natural and engineered stone products containing respirable crystalline silica is recommended.

The long-term sequelae of silica exposure are of concern, given that recent findings have demonstrated rapid progression of silicosis in Spanish engineered stone workers, even after cessation of exposure to silica dust (Leon-Jimenez 2020). A similar study exploring the progression of silicosis in Australian workers would be useful for informing the long-term goals of the Taskforce. In addition, further clarification of the non-silicosis health outcomes of silica exposure is needed. For example, there is lack of consensus on the risks of lung cancer in exposed individuals without silicosis. The wider systemic consequences of silica exposure, such as rheumatoid arthritis, systemic sclerosis and renal disease, should also be more thoroughly investigated.