



Beautiful benchtops: How should we protect our workers?

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Summary

Exposure to respirable crystalline silica (RCS) occurs when workers cut, shape or polish rock, including the popular benchtop material engineered stone. This exposure leads to silica-related health issues in stonemasons and construction workers. Applying Australian data, 250 of the 1000 New Zealand workers who've fabricated engineered stone in the past 15 years will develop silica-related diseases.

Australia has taken decisive action—banning engineered stone, establishing a National Occupational Respiratory Disease Registry, and mandating reporting. Unfortunately, action in New Zealand (NZ) is lagging behind Australia, leaving our tradespeople at risk.

The government is currently calling for feedback on a range of options to control the risks from engineered stone. A ban on engineered stone slabs is urgently required to prevent further avoidable health harms, along with a registry of exposed workers to ensure effective follow-up. However, these measures should be part of a wider Worker Health, Wellbeing and Safety Strategy including a National Occupational Health Service.

Over the last 15 years, around 1000 NZ workers have been exposed to high concentrations of respirable crystalline silica (RCS) dust while working with engineered stone slabs, a popular product in kitchen and bathroom benchtops. The health impacts of this intense RCS exposure has resulted in silicosis developing in young stonemasons in NZ like that reported in Spain, Israel and Australia. Why has it taken 20 years for us to try and ban its use when the health harms of engineered stone have been known for decades? This Briefing recommends solutions to prevent further health harms.

The problem with silicosis and other silica-dust diseases

In New Zealand, hundreds to thousands of workers are being exposed to RCS across a variety of industries such as the fabrication of engineered stone benchtops, tunnelling, foundry work, construction, quarrying and manufacturing of glass, pottery, ceramics, and concrete. Once airborne, RCS is small enough to be inhaled deep into the lungs and in susceptible individuals causes lung disease such as silicosis and lung cancer and in others, kidney disease and autoimmune disease.

Silicosis is a preventable, progressive, fibrotic lung disease resulting from airborne RCS becoming trapped in the lungs causing inflammation and scarring. This process causes irreversible damage, reducing the lungs' ability to absorb oxygen. There is currently no cure, so workplace exposure leads to disability and in some cases to death without lung transplantation. Chronic silicosis develops after more than 10 years of exposure, and in “accelerated” forms within 10 years of first exposure, more likely with engineered stone.¹

The true burden of silicosis in New Zealanders exposed to high concentrations of RCS from working with engineered stone is unknown. However, data from Australia (Queensland and Victoria) suggests that one in four workers who handled engineered stone before 2018 developed silica-dust diseases (See [Appendix 1](#)).² Given the similarities in workplace practices, it is reasonable to expect similar impact in NZ, potentially affecting 250 out of

the 1000 workers who have handled engineered stone.³ Accident Compensation Corporation (ACC) reports the number of confirmed cases in NZ is far smaller: however, most exposed workers have not had the necessary diagnostic tests, and diseases may take years after exposure to develop (like asbestos), so it has not yet been found.⁴ In addition, disease may be misdiagnosed - and even when diagnosed it is not notified - so getting the true number of workers with disease is not straightforward.

Due to the alarming potential for disease, a free case-finding pathway was developed offering exposed workers a free GP visit and investigations including CT scans looking for evidence of disease. Unfortunately, only a fraction of exposed workers have been assessed through the ACC case-finding pathway. Many workers avoided the pathway due to limited access to healthcare in general, fears of job and income loss, and the perceived lack of immediate health benefits. As of September 2023, only 190 workers had taken the first step of lodging a claim.⁵ (See [Appendix 2](#) for further detail.)

Non-compliance with basic safety guidelines among fabricators continues, with inspected businesses still failing to protect workers adequately.⁶ The lack of mandated sensitive workplace health monitoring is another problem.

Although NZ data on ethnicity and silica exposure is limited, previous research has shown that Māori are more likely to be exposed to workplace hazards - in general, and some carcinogens specifically - compared to non-Māori.⁷ This contributes to health inequalities which makes it a priority that workers have access to on-the-job occupational health input, health monitoring and access to health care. It is a priority that we ensure workers have improved work conditions, optimal occupational health monitoring and access to health care.

Total ban on engineered stone - a good idea but not a single solution

MBIE is [seeking feedback](#) on improvements to current RCS controls. As a first step, NZ should follow Australia's lead to implement a complete ban on imports and fabrication of engineered stone to halt further harm to tradespeople from this source. Elimination and substitution are the most effective measures in the hierarchy of controls. If the government is not brave enough to follow Australia's lead, at the very least rigorous controls of engineered stone importers and fabricators are required.

However, even if there were a total ban, other challenges remain. No singular organisation has jurisdiction over the wider issues of worker health and wellbeing (see [Appendix 1](#)). Newer low silica stones contain other dangerous substances, including resins, that may also cause serious health harms. And other workplace dusts have significant health impacts.

Registry of all exposed workers

An official registry of people with workplace silica dust exposure should be established, like Australia's new registry. This registry would track exposure, facilitate long-term health monitoring, and support research on disease progression. It should be accessible to relevant clinicians and integrated with existing health systems to ensure appropriate follow-up and support. This should be supported by improved notification and coding of occupational-related disease so we know the true burden of disease.

National Worker Health, Wellbeing & Safety Strategy

NZ has an appalling history of failing to protect and support workers.⁸ The focus of WorkSafe and ACC are too often a reactive response to acute injury, rather than a focus on the insidious and far more costly work-related illnesses that need proactive prevention. ACC has a role in compensating workers affected by silicosis and needs to shift its focus more to prevention.⁹ A strategy must put the health back into health and safety.

National Occupational Health & Wellbeing Service

NZ needs to learn from the legacy of asbestos and provide a co-ordinated and expert-led response to silica. We know that workers change jobs frequently. A National Occupational Health and Wellbeing Service responsible for regular mandatory follow-up of exposed workers, and occupational health and wellbeing more generally, is urgently needed. The establishment of Health New Zealand Te Whatu Ora presents an opportunity for this activity to sit alongside the National Public Health Service.

Compensation for Disease

We also need a review of how workers are compensated when regulations, legislation and health structures fail to protect them and their whānau from occupational hazards. Affected workers report that they have received no monetary compensation, psychological support or occupational retraining despite their life-threatening accelerated silicosis.

Make a submission

The Ministry of Business, Innovation and Employment (MBIE) is [seeking feedback](#) on a range of options to control the risks from engineered stone and other sources of exposure to respirable crystalline silica. The consultation closes on 18 March.

What this Briefing adds

- An estimated 250 New Zealanders are likely to have silicosis and related illnesses from working with engineered bench tops, based on Australian experience with this occupational exposure.
- The Australian government has made decisive changes to policy and committed investment to support the health of their tradespeople by banning imports and use of engineered stone, strong regulation of all substances containing silica, mandatory reporting and a national disease registry.
- Worker health and wellbeing has been neglected in NZ. We call for a new national approach.

Implications for policy and practice

- Government needs to follow the lead of Australia and implement a total ban on engineered stone.
- It also needs to establish a Registry for exposed workers to ensure effective monitoring and worker protection, and regulate all silica containing substances.
- Government needs to establish a National Worker Health, Wellbeing and Safety Strategy and a National Occupational Health and Wellbeing Service to address silicosis and other neglected occupational health and wellbeing issues, for the sake of all NZ workers and their whānau.
- MBIE is seeking feedback on controls: we recommend priority is given to establishing a strategy to prevent RCS-harms and health services to support workers living with silicosis.

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Appendix 1

Lack of leadership for assessment of silicosis risk in exposed workers and prevention action

We currently only have a small snapshot of workers assessed through the ACC case finding

pathway (200 out of 1000 exposed, although not all had the clinician-recommended essential investigations). In this small cohort, disease was identified on screening imaging even in asymptomatic workers. In symptomatic workers, the disease was more advanced.

To encourage more exposed workers to enter the case-finding pathway, workers need reassurance that they will be compensated and supported if disease is identified, and they are no longer able to work in the industry. The concern that they will lose their job (based on their colleagues reported experience) and the requirement on workers to have and then attend their GP for assessment rather than providing workplace-based occupational health monitoring explains the low uptake of the free case finding pathway. There is currently no cure, so no clear benefits to the worker in the short term. However, finding evidence of disease early empowers the worker to be able to decide the appropriate next step to reduce their ongoing exposure when there is still time to change the course of the disease.

As notification and coding of disease improves the true extent of occupational lung disease related to engineered stone in NZ will become clearer. The government of the day needs this real-world data to inform their decision-making. This relies on accurate diagnosis by clinicians, yet there are workers with confirmed silicosis on lung biopsy who were initially misdiagnosed with another interstitial lung disease because the significance of the workplace exposure was previously unknown.

No singular organisation has jurisdiction over the whole issue of worker health and wellbeing. There is no agency to provide overall leadership for policy and follow-up for those people with histories of significant workplace exposure to silica dust and no current symptoms. Currently, MBIE, ACC, WorkSafe and MoH make recommendations on clinical care of exposed workers, but the current assessment pathway is not robust, and data is fragmented. Health NZ provides clinical services to those with severe symptoms or confirmed diagnosis, but no health surveillance of workers that may be in the latent phase of disease and no horizon scanning of emerging occupational illnesses.

The Accelerated Silicosis Assessment Pathway was established by ACC and published by the Ministry of Health with the intent of facilitating early diagnosis in highly exposed individuals and subsequent medical support and compensation cover. People who work with engineered stone are encouraged by WorkSafe to present to primary care for an initial assessment and to lodge an ACC claim. Further management and long-term monitoring should then be provided by ACC, respiratory physicians and occupational physicians. However, uptake has been low – as of September 2023 only 190 people had lodged claims for assessment^{vii}, and many had not completed the pathway recommended by expert clinicians on the National Dust Diseases Taskforce. Additional barriers include workforce turnover, difficulty accessing a GP, and increased pressures within primary care.

We remain concerned that people assume a normal CT scan means that worker has escaped harm from past RCS dust exposure: however silica is just like asbestos, and deadly diseases may develop decades after exposure. Prevention of exposure is essential and long-term follow-up is required. Alarm had been raised internationally for several years before local experts escalated the potential impacts in New Zealand workplaces, because there is currently no Occupational Health Service responsible for Prevention and Health Promotion like the National Public Health Service. This is crucial.

Lack of safety compliance among fabricator businesses also remains a barrier to ensuring effective monitoring and worker protection. A 3-year investigation by WorkSafe New

Zealand showed that more than 90% of 126 stone fabricator businesses checked were ignoring the safety guidelines and failed to properly protect workers from toxic silica dust.^{viii} The cavalier approach to workplace risks must stop: all dusts need to be managed carefully by all businesses to prevent dust-related harms to workers and their whanau.

Appendix 2

Silicosis case finding pathway

In the small group of workers reviewed through the case finding pathway silicosis was found in asymptomatic workers (no respiratory symptoms). That is why health monitoring with sensitive tests (such as CT scans) is necessary to identify disease at the earliest time. If workers wait until symptoms develop it is too late. When disease is found early the worker can be involved in decision making about ways to halt or prevent disease getting worse which may include re-training supported by ACC.

In our experience workers with evidence of silicosis on CT scan who have left the workplace have a lower rate of progression of disease compared to those that keep working in the industry.

In workers with no evidence of disease on CT scan recommendations were made that the stonemason could continue to work with strict workplace PPE and ongoing health monitoring. However, we clinicians remain concerned that the concentration of RCS dust from fabricating engineered stone is too high and risky and should be substituted for a stone with lower concentration of silica, ideally banned completely. Dust needs to be carefully controlled in all workplaces at all times to avoid dust-related health harms.

A NZ stonemason was diagnosed with severe silicosis after presenting to his GP with persistent cough after a viral illness affected his young family. He reported that dust hygiene practice was poor when he first started working fifteen years before in an engineered stone business, with unventilated workshops where they would dry cut the stone. His condition continues to deteriorate, and he has been referred for consideration of lung transplantation. He had not undergone any prior chest x-rays or CT scans as part of health monitoring in the workplace over the preceding 15 years. He was not found through the ACC case-finding pathway, despite this being offered at his workplace. "WorkSafe are doing a good job now of improving dust control - but its 20 years too late for me. I don't want other young stonemasons to have the same fate. All I want is to support my family and be healthy."

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