

**16 December 2020**

Dear Minister Little,

It is with renewed optimism that I send you congratulations on your new role as Minister of Health.

You will recall that Ged O'Connell and I met with you in early September 2020 regarding the WorkSafe and New Zealand response to Accelerated Silicosis (AS). That was in your role as Minister for Workplace Relations and Safety. As we agreed at that meeting, workplace health and safety cannot be separated from public health, but COVID-19 and AS show that connection very clearly.

Thank you for raising our concerns with WorkSafe NZ about actively including occupational health nurses and physicians at an operational level in addressing AS.

This is a complex problem requiring both prevention and reaction strategies.

In terms of prevention, there has been no progress on a prevention framework from the Dust Disease Taskforce.

In terms of reaction, the focus has been on case-finding. On 11 December WorkSafe reported that their clinical pathway has resulted in 24 cases being submitted to the ACC Gradual Process Claims Unit. WorkSafe NZ inspectors have talked with 368 at-risk workers and advised them to visit their GP to access the clinical pathway. Only 6.5% of workers had seen their GP by 23 November 2020. It has taken 18 months to construct the clinical pathway and achieve this result. In contrast, in Australia they had close to 100% of cases identified within a year. (Please see the case study attached and refer to the NZ Occupational Health Nurses Association (NZOHNA) document I gave you at the last meeting.)

As health practitioners, I and other occupational health professionals are bound by our ethical code to speak out and advocate where people are being made ill or injured at work. Consequently, I have engaged with a group of highly motivated and concerned stakeholders that includes E Tū, Council of Trade Unions, First Union Quarries, Occupational Health Nurses, and researchers from Massey Centre for Public Health to submit this proposal to you. Construction Health and Safety Association NZ, IMPAC Ltd (who are funded by ACC to create an accreditation system for fabricators only), Occupational Health Physicians and the NZ Occupational Health Nurses Association have also indicated interest to support, and it is expected that this will grow to include wider industry-led groups.

We are exploring how to facilitate the development of an AS Prevention Framework for New Zealand, as outlined in the briefing note provided in September. Our approach will involve stakeholders from across design, manufacturing, construction, consumer, and specialist occupational health provider groups. We have connections with colleagues in Australia and can leverage lessons from their approach to AS. In addition, measures to prevent AS will prevent other dust-related respiratory diseases.

Our group would be pleased to discuss the attached outline for creating such a prevention framework with you.

Collectively, we have the knowledge, ability, leadership, and experience to develop and implement this framework. We believe we can demonstrate an effective, accountable, transparent, partnership approach to tackling this problem which can be replicated to address other workplace health and safety issues.

We look forward to your prompt reply.

Regards,

Heidi Börner on behalf of the Group for Action on AS Prevention

# Proposal for the Urgent Formation of a National Accelerated Silicosis (AS) Prevention Framework

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*There are a number of others who have also expressed interest to participate in AS prevention including industry groups, health and Safety practitioners, accreditation and standard-setting group, Occupational Physicians, First Union Quarries, and NZOHNA.*

## **16 December 2020**

The newly formed *Group for Action on Accelerated Silicosis Prevention* had its first meeting on December 9, 2020 to discuss the urgent need for a National Accelerated Silicosis (AS) Prevention Framework. It was agreed that a proposal be submitted to government for its endorsement and resourcing of a multidisciplinary group to collaborate on the development of an AS prevention framework which has the goal of reducing harm from inhalation of Respirable Crystalline Silica (RCS) in the production, manufacture, installation, and disposal of engineered stone. While this proposal is primarily for AS, the infrastructure and relationships will inevitably overlap with other workplace health exposures such as other dusts, chemicals and asbestos. Workplace health issues are complex and a multidisciplinary approach will support widespread and consistent action.

In 2019 WorkSafe (WSNZ) brought together a multidisciplinary group of stakeholders in the Dust Diseases Taskforce (NZDDT). However, their activities were focused on developing a reactive clinical pathway for workers with AS. Most stakeholders were frustrated that their professional advice for a focus on prevention was ignored. In addition, Occupational Health Practitioners were shut out of the case-finding work in the weeks prior to the clinical pathway going live. The Sept 1 clinical pathway target informally set by the Occupational Health professionals (based on the Australian performance) was a conversion rate of 70% - that 70% of the 368 workers that WorkSafe inspectors spoke to would have been to their GP to lodge a claim with the ACC gradual claims process within the first three months of the pathway. Instead, only 24 claims have been lodged in the period between September 1 and November 23, 2020 which is 6.5%. This is not a surprise to the Occupational Health Nurses who detailed the problems to this in a 94 page objection to the approach to WorkSafe, and to the Minister for Workplace Relations, Andrew Little in September 2020. The co-chair of the DDT, Dr. Alexandra Muthu also submitted her objections. None of this communication influenced Ministry of Health, ACC nor WorkSafe's decision to alter the pathway, and another 3 months has been lost on that single-focus solution that had a low prospect of success.

To be very clear, WorkSafe has focused their campaign on the companies that have registered their activity as working with (cutting, polishing, grinding) engineered stone. From this WorkSafe has been advised to expect, if comparisons to the Australian experience hold up, an estimate of 45-90 AS cases, and deaths within 1-3 years. Those numbers are based solely on companies that have been identified. This does not include tradespeople who install engineered stone products onsite, including private houses and multi-unit construction sites. The information that we have gathered through this group tells us that there is much wider use of and exposure to RCS than WorkSafe has considered. That alone makes the case for multiple ways to approach workers, businesses and consumers (public) of this product.

It is promising that early exposure testing shows that changing the product reduces the danger. For example, marble workers have exposure to RCS well below detectable limits. Substitution of the material is worthy of exploration. This is a 100% man-made problem that can be fixed. Asbestos took 80 years to be recognised as an issue and for appropriate action to be undertaken, and the repercussions are still evident.

A multidisciplinary and multi-stakeholder approach is needed. WorkSafe cannot do this on its own due to its enforcement duties, policy and legal limitations, and funding limitations. Many more boots are needed on the ground. In addition, proposed solutions may require support from other ministries, such as Ministry of Health (especially public health), and Ministry of Regional Development. This is because the building of houses, roading and other infrastructure is the primary economic stimulation strategy. We need to keep workers and their families safe during this time.

## **Call to Action**

1. We require an endorsement and resourcing for a collaborative, multidisciplinary group of stakeholders to create a National AS Prevention Framework.

## **Goal**

2. The goal is for the National AS Prevention Framework to apply across the entire supply chain to eliminate the risk of Accelerated Silicosis across New Zealand.

## **Why**

3. Accelerated Silicosis is an entirely preventable, fast onset (from 6 months of first exposure), non-reversible, progressive and highly aggressive form of pneumoconiosis. It has a high rate of terminal diagnosis. The terminal course for AS is much shorter than regular silicosis. Deaths within 3 years of first exposure have been reported in Australia.

4. AS is caused by the inhalation of relatively small amounts of Respirable Crystalline Silica (RCS, a very fine, almost invisible silica dust), generated when working with engineered stone. RCS is also an IARC Group 1 carcinogen.

5. The most common method to prevent exposure is achieved by using water to trap the dust during cutting, grinding and polishing. More rigorous scientific testing is needed in order to prove the effectiveness of all control methods, systems in the workplace required to operate the controls (eg preventive maintenance), and the effect of human error and system failure on exposure. Early testing shows that automated machines that are submerged in water and operated remotely are able to keep the exposure level below the Workplace Exposure Standard. Even with this, workers were still dry-cutting during offsite installations.

6. Engineered stone is a man-made product. People choose to use it. The ability to control the work and work environment is potentially high.

7. The use of engineered stone is rising because of the desirable properties of the final product for consumers who are unaware of AS.

8. The current rate of exposure in New Zealand is unknown and there is no register currently in place to capture those we know have had exposure. Due to the widespread use of engineered stone, the exposure is likely to be high and widespread. There is a lack of NZ local data about exposure rates, control effectiveness and actual work practices. The NZDDT used data from Queensland and Victoria to estimate the size of the problem in NZ:

- 20-30% of workers exposed to crystalline silica are likely to have already developed AS
- A terminal prognosis is likely for 20-30% of this group.

In the New Zealand context WSNZ estimates the following:

- Workers who cut and polish stone: estimated at 500 + another 500 workers estimated to have left the industry (fabrication companies only)
- Estimated fatalities 45-90 fatalities, based on the estimated number of workers and the Australian Experience.

However, these estimates do not include sole traders, and micro and small businesses whose work includes fabricating engineered stone, exposure to neighbouring businesses, persons in administrative roles and incidental exposure via laundry and cleaning practices, bringing dust home etc.

9. The level and impact of exposure on workers' families and homes from dust transferred on clothing has not been considered.

10. New Zealand does not have the preventive systems in place for workplace health issues. Workplace health has largely been ignored in the last four decades by WorkSafe, Ministry of Health, ACC and MBIE. ACC often declines claims for health problems resulting from work exposures, especially where they have occurred over time. Occupational Health providers are only able to deliver services to companies that pay them to do, and this results in patchy, incomplete and disconnected service delivery.

11. Gaps in the current health care system create real barriers for our most vulnerable workers, making it difficult for them to access quality health care and maintain their employment.

12. While workplaces are key locations for the promotion and maintenance of well-being, New Zealand's health system and workplace systems work largely in isolation.

13. Co-ordination between the main Ministries and Crown Agents involved is weak, engagement with workplace health professionals is ad-hoc, well intended but their advice often ignored. Trade unions are under-represented in key decisions and solutions that relate to the safety of workers. Workers' voices are usually absent in decision making.

14. The national Accelerated Silicosis response is a system failure that will result in many preventable deaths. Together we can do much better for workers and their families.

## Background

15. Engineered stone is a fabricated stone made of silica powder and resins. It contains up to 95% silica, which is greater than natural marble (10%). When cut or polished, the dust created contains tiny particles of silica – some invisible to the eye – that are small enough to be inhaled and make their way to the alveoli of the lung. This is the place where gas exchange occurs. The body tries to encapsulate and destroy the silica as it would viruses and bacteria, but because silica is stone, this doesn't damage the silica. The silica stays in the lung, and the body tries to fight it in more extreme ways. The result is fibrotic scar tissue that build up around the silica, and because the silica does not go away, the fibrosis process continues. When the lungs have more exposure, the effect of this multiplies. The result is Massive Pulmonary Fibrosis (MPF) in the lungs, and also a triggering of other immune systems that affect other areas in the body. Together this is referred to as Accelerated Silicosis (AS). The effects are not reversible with any current treatments. Lung transplants require ongoing immunosuppressant medication and do not result in a long life expectancy. Treatment is therefore is supportive and for symptom relief as AS progresses.

16. The current Workplace Exposure Standard (WES) is  $0.05 \text{ mg/m}^3$ . This is the amount of RCS allowed in an 8 hour period. Current thinking is that this needs to be reduced to  $0.025 \text{ mg/m}^3$ . (See attached photos).

## What has occurred so far

17. In Australia many deaths of young people in the engineered stone industry were reported, and linked to the exposures to RCS that they had from their work. Queensland and Victoria, and Australia nationally developed industry and health and safety guidelines and recommendations. There has been national funding to support exposure prevention information and guidance, and for workplace exposure testing. This work continues in Australia. Some states have called for a ban of engineered stone.

18. As a result of the Australian experience, WorkSafe also recognised AS as a risk in New Zealand workplaces, and launched a Dust Diseases Taskforce in 2019.

19. In 2019, the Occupational Physician Dr. Alexandra Muthu conducted field work on AS in a small number of NZ workplaces. Her work highlighted the complexity of AS and confirmed the need for a holistic, multi-disciplinary approach. She co-convened the NZ Dust Disease Taskforce (NZDDT) with WSNZ ensuring its membership included occupational health and medical experts from here and Australia. This multidisciplinary group developed a clinical pathway which commenced in September 2020. The clinical pathway is designed to find AS cases in the 113 PCBUs identified by WorkSafe as manufacturing or working with engineered stone. These cases are then referred by their GP to the ACC Gradual Process Claims Unit for acceptance. The prevention aspects were limited to two visits to the 113 PCBUs by WorkSafe inspectors.

20. The NZDDT was initially mandated to identify and support AS cases and instigate exposure prevention activities. It developed a multi-disciplinary and multi- faceted approach that utilised occupational health professionals, GPs and DHB resources. (see TABLE 1 below).

TABLE 1

<i>Clinical pathway for exposed workers</i>	<i>National AS Prevention Framework</i>
Find cases	Map the complete situation across NZ
Measure exposures	Determine the effectiveness of different controls
Remove cases to safer work	Educate about effective control measures
Ethically assist exposed workers & their families	Establish required data sets for AS management
Move cases through treatment & compensation	Create evidence base to inform policy & work design options

22. Against NZDDT members’ advice, WSNZ, MoH and ACC announced a very diluted version of the clinical pathway for exposed workers shortly before going live. This new approach from government is called the **AS Assessment Pathway** and replaces the Occupational Health professional role with General Practitioners & Case Managers working by telephone, and is solely focused on case-finding and assessment activities.

23. This pathway has severely inhibited the preventative and measurement functions normally carried out by Occupational Health professionals. Indeed, prevention work is now limited to written WSNZ guidance, plus one inspection of the workplaces known to WSNZ. WSNZ has now recognised that this approach has failed.

24. GPs do not have the experience, time or expertise to assess worksites and PPE, or identify and support workers to undertake the exposure history, medical testing and diagnostic process. Neither is it feasible for all GPs to attend the single workshop proposed to educate and upskill them into this important role. Furthermore, many workers are not registered with GPs and the cost of a visit is often prohibitive.

25. In this new pathway, health service costs will be met by the Gradual Process claims unit at ACC. This unit has a strong reputation for rejecting claims, and does not have the expertise required to deal with the technical and prevention elements of AS.

26. ACC have funded IMPAC Services Ltd to work with the New Zealand Engineered Stone Advisory Group (NZESAG) to design an industry-regulated accreditation and audit programme for larger engineered stone manufacturers. The establishment of the accreditation system involves testing of RCS levels to determine the effectiveness of the controls which will aid in control standards. Control standards will help to determine whether it is possible to control the RCS to below safe levels, and what is needed to do so. This will help to inform and design prevention solutions the rest of the supply chain, specifically the public, and smaller businesses and sole tradespeople.

27. In September 2020, Heidi Borner and Ged O’Connell met with Hon Andrew Little who was the Minister of Workplace Relations at the time. AS as an issue was reviewed with him, and the concept of a parallel government-supported National AS Prevention Framework was proposed. We have not yet seen any change in WorkSafe’s approach or position on leading prevention actions for this problem since that meeting.

## Why a National AS Prevention Framework is urgently needed

28. Prevention is the best way to prevent illness due to AS. Finding cases reactively and after the fact will not prevent harm.

As listed above, here are the proposed main activities for the National AS Prevention Framework:

- Map the complete situation across NZ
- Determine the effectiveness of different controls
- Educate about effective control measures
- Establish required data sets for AS management and monitoring
- Create evidence base to inform policy & work design options

29. The reasons for a prevention framework are:

- AS is progressive and cannot be cured.
- Based on numbers from Australia, New Zealand is expecting 500-1000 people who are or have previously worked in the 113 PCBUs to have been exposed, and 45-90 deaths in the short term.
- The disease progresses rapidly – in 1-6 years of exposure to illness /death.
- The amounts of exposure leading to disease to RCS are very small.
- RCS particles can be invisible to the naked eye which means testing of workplaces is needed to check that controls are working.
- Research on controls around the world show that RCS exposure is very difficult to reduce to below the WES, and requires multiple layers of prevention (much like controlling a virus or bacterium). Early NZ testing is indicating similar results.
- Workers bring dust home on their clothes, endangering the health of their families.
- The AS Assessment Pathway excludes persons who may have incidental exposure to RCS, such as office workers, neighbouring workers in shared premises
- Engineered stone is being dry cut and fitted during installation in homes around New Zealand.
- Engineered stone is used in housing, kitchen benchtops, cemetery head stones, garden features, and other uses. Exposure occurs in plumbers (cutting to fit pipes), builders (installing), cleaners (sweeping dust), rubbish handlers (dust in the rubbish), workers in other parts of the plant or working beside installers, laundry handlers, and worker families. This results in a wide number of people (workers and public) who could be exposed to engineered stone dust.
- Trade Me has many listings for slabs of engineered stone. There is concern about sole operators cutting, polishing and installing it without controls in place.
- There is a concern that people are buying silica powder and resin and making their own engineered stone.
- The public/consumer requires understanding what they are buying and the effects on worker health, and other options.

## Multi-stakeholder Approach

30. In order to create an effective National AS Prevention Framework, there needs to be firm commitment and participation from ( not an exhaustive list):

- Government – WorkSafe, MBIE, ACC, MOH



- Quarry industry
- Suppliers
- Retailers
- Unions
- Workers
- Occupational Health Nurses
- Occupational Physicians
- Occupational Hygienists
- Health and Safety system specialists
- Primary, secondary, tertiary health care including public health
- Construction industry – architects, designers, engineers, builders, purchasers
- Industry associations – eg. Master Builders; Master Plumbers, Gasfitters and Drainlayers;
- CHASNZ
- NZESAG
- EMA
- Developers and auditors of standards and accreditations
- Education and training organisations
- Researchers
- Consumers/Public
- Communications channels for Press releases and Public awareness campaign

## SOLUTION

31. We are seeking a sector-led approach, supported by government.

- a. Endorsement and resourcing of a comprehensive **National AS Prevention Team** to progress the activities outlined in the *National AS Response Framework* provided in Table 1 above.

The AS Prevention Teamwork would begin **immediately** on:

- Finding and supporting exposed workers from all areas to promote access to the AS Assessment Pathway for diagnosis
- Preliminary assessment and mitigation of workplace risk
- Ongoing education and assessment
- Collecting and sharing workplace data and worker intelligence with the public health system via Electronic Health Records (EHR) and other mechanisms
- Creating a business and worker register derived from the EHR and Occupational Hygiene testing results
- Liaising with the NZ Engineered Stone Advisory Group and IMPAC to share appropriate information about prevention activities and standards.

32. In addition to addressing the causes and impacts of AS, the above approach has the potential to:

- Position and acknowledge workplaces and occupational health specialists as part of our wider public health system.
- Increase our understanding of respiratory diseases, AS, and co-morbidities.

- Demonstrate a collective, multi-disciplinary and ethical approach that can be replicated for other dangerous substances e.g. erionite - a listed group 1 carcinogenic material found in the sedimentary rocks across Auckland and potentially exposed through road, rail and housing developments.
- Support locally designed and manufacturing of alternatives to engineered stone, especially as demand by the public is increasing.
- Improve or restore public confidence in our regulatory regime and health system, and investor confidence in the mid to longer term.

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Further Reading:

<https://www.npr.org/sections/health-shots/2019/10/02/766028237/workers-are-falling-ill-even-dying-after-making-kitchen-countertops>

<https://pubmed.ncbi.nlm.nih.gov/28145560/>

<https://pubmed.ncbi.nlm.nih.gov/32859693/> - Survival post transplant 7.8 years. Same as other lung transplant survival rates.

<https://www.nzma.org.nz/journal-articles/erionite-in-auckland-bedrock-and-malignant-mesothelioma-an-emerging-public-and-occupational-health-hazard>

[https://www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-nat-dust-disease-taskforce.htm/\\$File/nat-dusk-interim-advice-dec2019.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-nat-dust-disease-taskforce.htm/$File/nat-dusk-interim-advice-dec2019.pdf)

## **Case Study - Engineered Stone Workers**

### **3 December 2020**

I have recently seen four workers who manufacture engineered stone for health monitoring (hearing, respiratory and vision assessments).

All four workers have been spoken to by Worksafe and knew about the Accelerated Silicosis pathway but none have been to their GP to lodge a claim. Barriers include being too busy to get to the GP, ability to get an appointment outside of work hours, unsure if they have to pay for the appointment and one worker expressed a fear of what the investigations would find.

**All four workers said they would have completed the ACC application if it were offered at the time of their health monitoring appointment.**

Also to note:

- while the company is making efforts to improve air quality controls, dry cutting of engineered stone is still in place in the warehouse and on site installation.
- workers had dry dust on their clothing and a cap at their appointments.
- previous air monitoring tests found neighbouring areas of the workshop (used for manufacturing steel products) was above WES limits for silica. This has reduced since with additional barriers being installed.
- one worker has had 10 years exposure exposure to stone top manufacturing in Australia

Respirators had been upgraded to positive pressure hoods as requested by a Worksafe inspector and half mask respirators are no longer permitted (despite fit testing having been done in the last 6 months). Workers have found it difficult to the full hoods when polishing with water suppression as the water fogs the visor/hood. They have tried to tell managers about their issues but have been told that due to the money spent on the positive pressure units, they will be fined if found to be using a half mask. The result - one worker hides a half mask respirator to use during installation, the other workers do not use any respiratory protection when polishing (with water suppression) but state they can see plumes of dust during the initial phase of polishing when rougher pads are in use.

Issues

- access to pathway
- support through process and outcomes of pathway
- accurate information from clients and onsite observations
- worker education
- worker advocacy
- relationship with company directors, managers, health and safety personal to address control issues particularly where workers do not have the confidence to raise concerns
- consistent messages and guidance, ensuring money is spent on the right products (half mask positive pressure respirators were advised in Australia).
- follow up and ongoing site and worker evaluations after the pathway is completed.

<https://www.abc.net.au/7.30/surge-in-new-cases-of-lung-disease-silicosis-among/11518538>



New Zealand 8 hour shift limit of Respirable Crystalline Silica (RCS). You are at risk if you breathe more than this during an 8 hour period.

