

# Accelerated Silicosis Occupational Health Nurse Pilot Report

Prepared for the Ministry of Health Manatū Hauora

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# Executive Summary

## Background

The right to safe work that does not adversely impact health was declared a human right by the United Nations in 1948. The New Zealand legislative framework exists to uphold human rights. In addition to the Health and Safety at Work Act 2015, businesses must also adhere to a number of other laws which prevent harm to people, communities and the environment.

Airborne hazards cause disease for the entire New Zealand population and results in serious illness and death. Airborne hazards include particulates including organic and inorganic dusts, chemicals, smoke, and pathogens. The worldwide consensus is that there is no safe level of inhalable dust or airborne hazards.

Despite the legislative framework and ongoing risk, New Zealand has no national occupational health surveillance strategy or system, and no prevention, exposure and disease data specifically for the New Zealand context. The government agencies use estimates of the burden of illness based on the experience of other countries.

New Zealand's Dust Diseases Task Force (DDTF) was formed in 2019 with multi-disciplinary representation from health practitioners, researchers, and government agencies. The focus turned to Accelerated Silicosis (AS) caused by Respirable Crystalline Silica (RCS) exposure in the Engineered Stone (ES) industry due to the rapid progression of serious disease leading to death that had been observed in other countries, including Australia. The DDTF created the ACC Accelerated Silicosis Pathway (AS Pathway). The role of Occupational Health Practitioners (Occupational Health Nurses and Occupational Physicians) had initially been to find RCS exposed workers and assist them to be assessed on the AS Pathway. This was changed by government agencies shortly before going live, in favour of General Practitioners (GP) being the gateway to the AS Pathway.

ACC's Accelerated Silicosis Pathway for workers exposed to RCS in the Engineered Stone industry resulted in a low number of health assessments for exposed workers. The Accelerated Silicosis Occupational Health Nurse Pilot (AS OHN Pilot) was initiated in 2021 and funded in 2022 by the Ministry of Health Manatū Hauoroa (MOH) in order to increase the accessibility for workers to be assessed via the AS Pathway.

## Accelerated Silicosis Occupational Health Nurse Pilot

Project scope: Accelerated Silicosis (AS) Occupational Health Nurse (OHN) Pilot

The scope of the AS OHN Pilot:

- Accelerated Silicosis only – the other two types (Acute and Chronic) were excluded.
- Population: 20 workers in **s 9(2)(b)(ii)** working directly with engineered stone.
- Type: Voluntary participation for workplaces, and workers with signed consent.

- Industry: One subset of the New Zealand construction/aggregate and stone industry – Engineered Stone fabrication. [REDACTED] businesses out of 130 known ES fabrication businesses.
- Number of operational OHNs: 2 delivering worker assessments, education, exposure histories, follow ups. Claims management was excluded.
- Number of supporting OHNs: 2 supporting OHNs with MOH contract preparations, report writing, contact with ACC, WorkSafe and MOH, overview of project progress, electronic data capture, letters to GPs, claims lodgment with Dr. Muthu. and other administrative and project management support.
- Number of support Occupational Physicians (OP): One
- Length of project: 6 months, with extension as needed.
- Funding: \$20,000 from MOH.

### Project Aims

The Ministry of Health stated that it was “seeking to undertake a pilot study to increase access to the accelerated silicosis assessment pathway. The aims of the study include:

- To assess the impact of occupational health nurse(s) undertaking the initial assessment (exposure questionnaire already available as part of the assessment pathway) at the workplace and encourage individual workers to visit a medical practitioner for a health check. This will be measured indirectly through whether there is an increase in ACC claims following the occupational health nurse assessments.
- To obtain informed consent from individuals to be involved in the pathway, and if they choose not to engage with the pathway, to understand what alternative options they may wish to consider
- To deliver outcomes that inform future work on dust diseases, including increasing our understanding of the barriers to having a health check, and characteristics of barriers that are preventing access to the pathway.”

### AS OHN Pilot Steps Completed

- WorkSafe inspectors provided a list of five Engineered Stone fabricators who agreed to take part in Wellington and Auckland.
- The OHNs contacted the businesses and discussed their participation in the AS OHN Pilot. [REDACTED] businesses participated.
- OHNs conducted walk throughs of the fabrication areas.
- 23 workers approached by OHNs for the AS assessment. 20 workers agreed to proceed.
- 19 worker assessments, histories and consents completed in four weeks by the OHNs. The 20th was delayed four more weeks due to his availability.
- 20 ACC45 claims lodged within 10.5 weeks. All workers opted to have the Occupational Physician lodge their ACC45.
- Summary letters sent to the workers’ GPs about the AS OHN Pilot and history for the worker.
- OHN follow ups completed with 20 workers.

- Final report completed and submitted to the Ministry of Health Manatū Hauora.

## Results

As at June 16, 2023:

- 20 out of 20 workers had AS assessments, histories and consents completed.
- 13 out of 20 had blood and urine tests completed
- 10 out of 20 had their High Resolution CT scan completed
- 9 out of 20 had their spirometry completed
- None had the DLCO and Pulmonary specialist appointment completed
- s 9(2)(a) [REDACTED]
- AS OHN Pilot Report

## Enablers and Barriers

Enablers:

- Collaboration with WorkSafe inspectors to identify engineered stone fabrication businesses willing to participate.

System Barriers:

- No co-ordinated approach in New Zealand
- Weak drivers from businesses to protect health
- Reliance on GPs for workplace health rather than Occupational Health Professionals
- No data management system
- Bureaucracy of government organisations leading to communication breakdown

Worker Barriers:

- Ongoing support for worker health
- Fear of knowing their health status and consequences of a positive diagnosis.
- Anxious wait for results
- Needing time to process
- Health literacy
- Reluctance to engage with ACC
- Time and organisation for tests
- Time off work for tests
- Workers paying for GP visits
- Money for tests –blood and urine tests, HRCT, spirometry
- Increased life insurance cost
- No ongoing surveillance

Business/PCBU Barriers:

- Self-selection, voluntary participation

- Engineered Stone Accreditation creating false sense of security
- PCBU knowledge of the health implications of RCS exposure

#### OHN and OP Barriers:

- Lack of funding model for OHN and OP experience and specialist services
- No provision for short term and long term care after the AS assessment
- Multi-organ and long term effects of AS

#### ACC Barriers:

- ACC AS Pathway complexity
- ACC management of the AS Pathway
- Lack of consultation process with occupational health specialists
- ACC reliance on 0800 number
- Test providers lacked understanding of testing requirements and ACC funding for tests

#### WorkSafe Barriers:

- Lack of engagement with AS OHN Pilot practitioners
- Lack of leadership
- Caution extrapolating the AS OHN Pilot findings wider

#### General Practitioner Barriers:

- Payment required for workers
- Understanding the AS Pathway and where to find the information
- Lack of time for GPs to understand AS due to heavy workloads

#### Ministry of Health Manatū Hauora Barriers:

- Occupational health not seen as part of public or community health
- Inadequate Funding for AS OHN Project
- After the AS OHN Pilot- Lack of clarity on what happens next
- No collaborative culture with occupational health providers

### Way Forward

As a result of this project and the wider legislative framework, and risk profile for New Zealand workers, communities, and businesses, we recommend a national occupational surveillance system. This requires collaborative and multi-disciplinary consultation.

#### Suggested outline of a national occupational health surveillance system

- Step 1. Registry of hazardous materials.
- Step 2. Registry of PCBUs that use these hazardous materials.

- Step 3. Mandatory health and safety professional to provide ongoing expertise to those workplaces to ensure preventive systems and processes are in place and effective.
- Step 4. Referrals from multi-disciplinary professionals into occupational health services. This would come mostly from the health and safety professionals, but could also come from Public Health, WorkSafe inspectors, occupational hygienists, unions, worker referrals, or industry groups (e.g. Electricity Supply Industry). This is to guarantee effective health monitoring and health surveillance as required when controls are in place for risk management. The OHN and OP review both the risks of the work on worker health, and also any health issues the worker may have that can impact safe work performance (fitness to work).
- Step 5. Occupational Health Nurse and Occupational Physician work together to assess workers, maintain their history, initiate claims as needed, and communicate with the GP.
- For AS, the ACC claim can be lodged and the testing can be organised in the same visit, whilst right there in the workplace. This is easier for workers than the current AS Pathway in that it negates the need for the worker to leave the workplace multiple times to organise these through their GP (if they have one). We need to be mindful of the stress this places on both the workplace and the worker when they need to take time off to attend appointments and undergo testing. ACC can provide purchase orders for OHNs to send to test providers when appointments are made so that payment is assured.
- Step 6. The ACC claim is reviewed by ACC and the next steps are applied as needed. For AS, this would mean the Pulmonary Specialist assessment and DLCO test. This can be facilitated by the OHN.
- Step 7. All test results are reviewed by the Multi-Disciplinary Meeting relevant for that substance.
- Step 8. The claim is managed by ACC in collaboration with OHNs, Occupational Physicians and GPs as needed.
- Step 9. Registers are kept and data is collected in a national surveillance system for different parties to enter their data. This data is then used to evaluate risk and detect trends.



## Summary

The AS OHN Pilot successfully demonstrated the value of using occupational health nurses with an occupational physician to support workers exposed to RCS to lodge an ACC claim and to have health assessments through the AS Pathway.

100% of the workers seen in the As OHN Pilot had a claim lodged with ACC and underwent valuable 1:1 training and education on how to mitigate the risks of RCS from both a personal and organisational point of view.

Disease assessment is just one part of managing the risks of airborne hazard exposures. There needs to be a much greater emphasis on the prevention of exposure to airborne hazards.

The nature of the recruitment of the participating businesses into the AS OHN Pilot meant that they all had received information about RCS control and risk management. This was a self-selected voluntary group that is not representative of the larger community of Engineered Stone fabricators. Therefore, the incidence of AS among this group cannot be extrapolated to the larger group.

We urgently need a national occupational health surveillance service and strategy that is parallel to the health system, to preserve the human right of safe and healthy work.

This needs to be at a minimum:

- Mandatory
- Prevention-focused
- Multi-disciplinary – occupational health providers (OHNs and OPs), general practitioners, crown agencies, workers, unions, communities, workplaces, occupational hygienists, occupational therapists, health and safety professionals, occupational safety providers and specialties such as psychologists
- Working closely with Public Health
- Independent of political change and influence
- A holder of exposure data
- A holder of interventions that are measured for effectiveness
- Work in with WorkSafe, the Environmental Protection Authority, Councils and other authorities for enforcement and decisions about banning existing and new substances
- A culture of caring and community

A strengths-based collaborative effort is the way to maintain the health and safety of New Zealanders at work and through work. Implementing a national occupational health strategy and surveillance service is the best way forward.

Prepared by the Accelerated Silicosis OHN Pilot Team:

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## Introduction

This report was prepared by the Occupational Health Nursing team that delivered the Accelerated Silicosis Occupational Health Nurse Pilot for the Ministry of Health Manatū Hauora.

Background is provided to show the New Zealand and international contexts in which the Pilot was implemented. The intention is to enlighten readers about the requirements to keep workers and communities healthy and safe, to demonstrate the state of occupational health in New Zealand, and to show the substantial benefits of a national occupational surveillance strategy and system.

The AS OHN Pilot is outlined, and the results are presented and discussed. The findings capture the experiences collected by the Occupational Health Nurses during the Pilot including perspectives from workers, businesses, and general practitioners.

The discussion of enablers and barriers shows why workers, health practitioners, and businesses are struggling to use the ACC Accelerated Silicosis Assessment Pathway. Consistent themes emerge that can be addressed in order to maximise the benefits of the Pathway process.

The report concludes with a proposed outline of a National Occupational Health Surveillance System supported by Occupational Health Nurses, pointing out that many components are already in place and considerable improvement is achievable.

Our fervent hope that this report results in improved collaboration between occupational health providers, general health providers, government agencies, workers, and businesses.

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## Background

### Human right to Safe and Healthy work

The foundation for health and safety at work is the United Nations Universal Declaration of Human Rights adopted in 1948. Article 23 states “Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment”. ([United Nations- Universal Declaration of Human Rights](#))

Therefore, it is recognised that workers have a right to a safe and healthy workplace, and that working should not pose a risk to their well-being. Protecting health at work is a right rather than a political agenda.

([https://www.ilo.org/legacy/english/protection/safework/worldday/products09/booklet\\_09-en.pdf](https://www.ilo.org/legacy/english/protection/safework/worldday/products09/booklet_09-en.pdf))

### Occupational Health Nurse (OHN) Role

Occupational Health Nurses are Registered Nurses with specialist knowledge and certifications for assessment, planning, implementation and evaluation of the health of workers, worker populations, and communities impacted by workplaces. Their combined knowledge of health and business balances the protection of worker health and safety with the needs of the business. Both the effects of health on work, and work on health are managed by OHNs. OHN practice focuses on promotion and restoration of health, prevention of illness and injury, and protection from work-related and environmental hazards. OHNs collaborate with health and other professionals to assist workers and workplaces to navigate the health system and health and safety frameworks in New Zealand and internationally.

Occupational Health Nurses deliver services through a variety of financial arrangements. Some are employed by businesses to work within the business, and others provide contracted services to a range of businesses. It is a well-established practice in New Zealand for government agencies to contract health providers, for example, ACC, Ministry of Health Manatū Hauora, and Te Whatu Ora Health New Zealand.

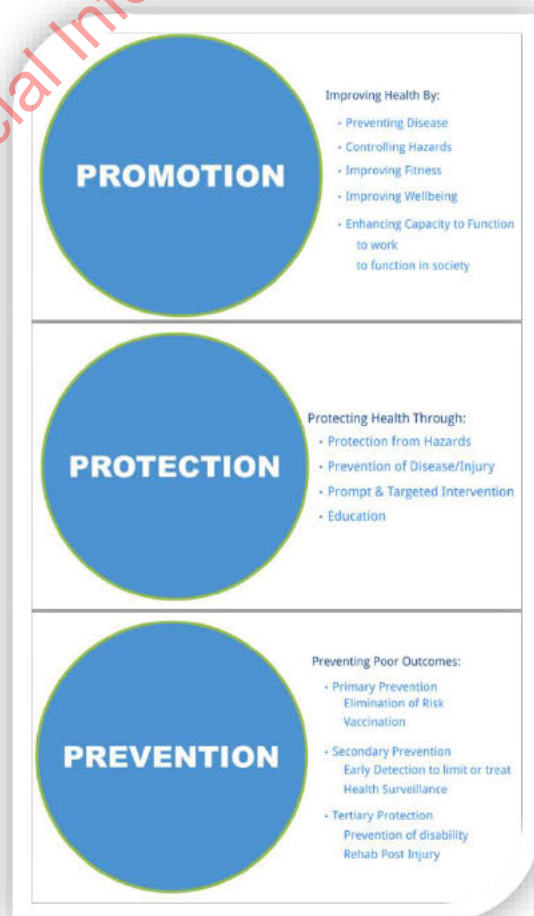


Figure 1: The values and goals of Occupational Health Nursing

## Airborne hazards

Pneumoconioses are lung diseases caused by the body's reaction to inhaling certain dusts (CDC <https://www.cdc.gov/niosh/topics/pneumoconioses/default.html>). Within the group of pneumoconioses are:

- Asbestosis which is caused by inhaling asbestos fibres which settle deep in the lung
- Silicosis caused by inhaling silica dust (Acute, Chronic and Accelerated)
- Coal Workers' Pneumoconiosis from inhalation of coal dust.

However, disease can also be caused by inhaling other dusts contained in stone such as feldspar, zircon, quartz, graphite, iron oxides, mica, aluminium, barium and more.

Other dusts can also cause interstitial lung disease, such as wood dust, dust containing resins or other chemicals, and dust-containing microbes.

In the same family are inhalation injuries due to smoke, chemicals, fumes, vapours, heat, bacteria, and these can cause severe lung and health issues.

Lung cancer is a common outcome for most of these airborne hazards.

[\(WorkSafe – 9.0 Airborne Contaminants\)](#)

In the New Zealand Carcinogens Survey 2021, Respirable Crystalline Silica (RCS) as well as a number of other occupational airborne hazards are listed as carcinogens in New Zealand, with high worker exposure. These are preventable diseases and deaths. It should be noted that, in the absence of New Zealand data, this data was extrapolated from actual data captured in Australian surveillance systems and applied to New Zealand.

[\(New Zealand Carcinogens Survey 2021\)](#)

## Control, Monitoring and Enforcement (CME) systems in New Zealand for Respirable Crystalline Silica (RCS)

The Health and Safety at Work Act 2015 governs the requirement for businesses in New Zealand to protect the health and safety of their workers, contractors, volunteers and others entering the worksite or affected by the work. The hierarchy of controls is the foundation of managing workplace health and safety risks. This hierarchy starts with elimination. If a hazard cannot be eliminated, then minimisation of the risk is required using substitution, isolation and engineering controls, and remaining risks using administrative controls and as a last resort, Personal Protective Equipment (PPE). For airborne hazards, elimination of hazards is often seen as impracticable. In the case of Engineered Stone, however, there are ways to eliminate silica disease risks by using other materials such as steel, wood or porcelain. Even then, the risks of using the alternatives must also be weighed and managed. In short, if all hazards were engineered out, there would be no need for an occupational health surveillance system for airborne hazards. Until this happens, we all need to be part of a system to minimise it, including consumers who have a responsibility for purchasing ethically. The return on investment on a system organised to be efficient is high when we factor in the cost of continually patching up the broken system and bearing the costs of failure in health care and

social systems for ill workers. The foundation of any system changes is good data, and a national workplace health surveillance strategy and system is needed.

Respirable Crystalline Silica is also classified as a hazardous substance causing cancer under the Hazardous Substances and New Organisms Act (HSNO) administered by the Environmental Protection Authority and in Schedule 2: Occupational Diseases of the Accident Compensation Act 2001. Where there has been recognition that RCS is a dangerous substance within various acts and agencies, it has been allowed to proliferate unchecked. This is a systemic failure due to overlapping and confusing agency accountabilities and mandates through legislation. ([Technical Working Group Report on New Zealand's hazardous substances compliance system, 2019](#))

The alarming aspect to this for occupational health providers is that we see this for not just RCS but for other substances dangerous to workplace and community health. This is being discussed in this report because the confusion and overlap was evident even in this tiny AS OHN Pilot.

### Risks to Workers in New Zealand

In 2019 WorkSafe New Zealand published research to determine the extent of the risks to New Zealand workers. They reported that diseases due to dust exposure led to significant risks to health including lung disease and cancers.

([WorkSafe- What are carcinogens and airborne risks?](#))

([WorkSafe- Work-related health estimates and burden of harm](#))

The research was conducted using population-based methods which are based on the experience in other countries and their exposures, rather than the actual exposures seen in New Zealand. New Zealand does not yet have an occupational health surveillance system where data from different workplaces and health service providers can be collected and analysed. Occupational Health Nurses and Occupational Physicians in New Zealand have been calling for this for decades and would still see this as foundational for addressing the risks and cost burden of occupational exposures. A surveillance system, collaboration of professionals and a database will provide better outcomes for workers through improved communication between health care providers, workers and government agencies. It could also play a part in strategic planning during national and international health emergencies, such as managing pandemics.

Of note, there is little data whether the effects of airborne hazards on female workers and children is different from males.

Without the means of communicating the efficacy of health interventions and health risk management amongst occupational medicine specialists (Occupational Health Nurses, Occupational Hygienists and Occupational Physicians), each practitioner is managing workplace health risks in isolation. This occurs for both work on health and health on work risks.

The extent of airborne hazards is national and significant, whether by industrial emissions into the community or via workplace exposures. Health surveillance methods need to be scalable, with opportunities for data upload from multiple health practitioners, workers, occupational hygienists and health and safety practitioners. The diagram shows the size of the issue and shows the Construction Industry as one example.

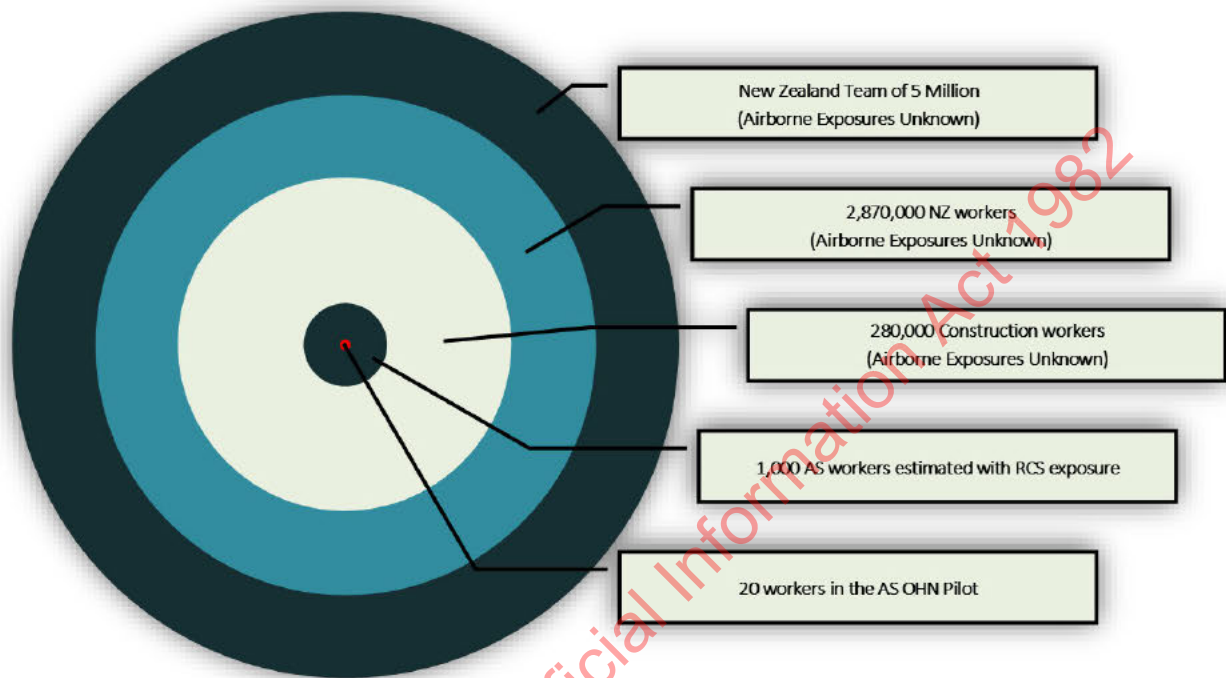


Figure 2: AS OHN Pilot Diagram: An illustration of the magnitude of the surveillance needed. Current surveillance systems are disjointed and overwhelmed and cannot be used for research or population prevalence and incidence. This diagram puts into perspective the size of this pilot versus the scale of the problem in one industry. (The circle sizes are indicative and not to scale). Total NZ workers would include other industries with airborne hazards such as farming, manufacturing, automotive, forestry, quarrying, health care and others. Construction workers are shown here because Engineered Stone workers fit into that group.

## Prevention of Airborne Disease

The most important fact to base prevention and treatment action on is that there is no safe level of inhaled dust or airborne hazards. This includes any dust and airborne hazards that occur either in the workplace or in the community from workplace emissions, such as dust from quarries, or smoke from burning waste. The WHO states that all particle sizes smaller than PM<sub>10</sub> pose a risk to human health. "The World Health Organisation recommends that **all PM<sub>10</sub> is treated as equal, irrespective of source**". ([Ministry of the Environment, 2011, p. 6](#))

It is worth noting that Respirable Crystalline Silica can be as small as PM<sub>4</sub> which allows it to pass deep into the lungs where it cannot be removed by the body.

Given airborne disease risks are medically complex in nature, affect many body systems beyond the lungs and that they are entirely preventable, any national health surveillance function needs to be medically multi-disciplinary.

s 9(2)(g)(i)

. Dust diseases are complex and long term in nature and require the input of many specialised stakeholders. The AS OHN Pilot brought together ACC, WorkSafe and MOH to work collaboratively with OHNs. s 9(2)(g)(i)

### Focus on Accelerated Silicosis in the Engineered Stone Industry

While there are no “good” airborne dusts, the New Zealand Dust Diseases Taskforce focused on Accelerated Silicosis due to the rapid development of significant health issues coming from exposure to airborne silica. Severe illness and deaths within 1-3 years of intense exposure was reported in Israel and Australia.

In 2019 in New Zealand, Dr. Alexandra Muthu first learned from Australian OP colleagues about the risk of developing accelerated silicosis from exposure to Respirable Crystalline Silica (RCS) in the Engineered Stone industry.

[\(Silicosis: How engineered stone is killing tradies\)](#)

It had been raised as an issue in Israel in 2010 by Dr. Mordechai Kramer.

[\(CaesarStone Silicosis Disease Resurgence Among Artificial Stone Worker\)](#)

Hearing of these cases occurring overseas, Dr. Muthu conducted preliminary assessments of 26 engineered stone workers and found cases of accelerated silicosis among that cohort.

Accelerated Silicosis (AS) is a type of silicosis that, due to high doses of Respirable Crystalline Silica (RCS) exposure within a short timeframe, has a high risk of progressing rapidly into Progressive Massive Fibrosis (PMF), a life-threatening, irreversible, and progressive lung disease. WorkSafe and Dr. Muthu established and co-chaired the New Zealand Dust Diseases Taskforce, which brought together Crown Agencies (ACC, MOH, MBIE, WorkSafe), occupational health nurses, occupational physicians, occupational safety professionals, researchers, occupational hygienists, organisational psychologists, unions, and others. This was a good opportunity to raise awareness about Accelerated Silicosis, and the Taskforce worked together to deliver an Accelerated Silicosis Assessment Pathway (AS Pathway) for workers. This meant that the appropriate tests were used to assess for and diagnose silica related disease amongst New Zealand workers. A common language to describe and diagnose AS was introduced, something which was missing before. One of the primary discussions in this forum was that workers should not have to pay for testing and investigations. The early drafts of the AS Pathway leveraged the specialist knowledge of occupational health nurses and occupational physicians, who had donated over a year’s worth of their time to the

development of an AS Pathway. They supported the collective collaboration from experienced and knowledgeable occupational specialists because they are the nurses and physicians who work alongside employers and their workers in managing health risks from work every day.

Days before the AS Pathway went live, there was a sudden change made by the government agencies, who were finalising it, to exclude occupational health nurses and occupational physicians from the pathway, and instead rely on workers to see their General Practitioners (GPs) to initiate and manage their AS claim.

s 9(2)(g)(i)

. In addition, not all GPs have experience or knowledge in the specialist area of workplace health, and do not visit workplaces to understand the working conditions and processes or have the opportunity to talk to other workers or business owners encountering similar exposures. The occupational health specialists were also concerned that a project to identify exposed workers needed to be cognizant of the speed with which the disease progresses, and OHNs and OPs were positioned to find affected workers quickly and actively. Early symptoms of accelerated silicosis are not overt or obvious. Therefore, there was concern that by the time workers recognised symptoms which would compel them to be assessed by their GP, their disease would be advanced. Very early identification is of primary importance in limiting disease progression, and time delays increase risk. This is why the tests for AS include High Resolution CT (HRCT) scanning of the lungs for miniscule and early lung changes. Workers are usually asymptomatic in the early stages, even when there is evidence of disease on HRCT scans. Once symptomatic, treatments options for the disease are severely limited.

The NZOHNA met with the Minister of Workplace Relations, Hon. Andrew Little in September 2020 and submitted to him a [comprehensive document](#) outlining the NZOHNA objection.

Many on the Dust Diseases Taskforce also objected, but the AS Pathway continued to exclude or severely limit occupational health specialist input despite those objections. As predicted, the strategy to use the GP as the gatekeeper was not successful in identifying and assessing the estimated 1000 workers at risk of developing Accelerated Silicosis. Although the AS Pathway was launched in September 2020, by January 2022 only 98 more workers had lodged a claim. s 9(2)(g)(i)

## OHNs Invited Back

In April 2021, MOH invited the OHNs to be consulted again in the planning of an AS OHN Pilot. This would involve contracting OHNs to go into engineered stone workplaces and connect with business owners and workers in their place of work, with the aim of supporting them to access the AS Pathway.

In November 2021, MOH contracted OHNs Heidi Börner and David Browning for 8 hours to work with MOH, ACC and WorkSafe to scope the Accelerated Silicosis OHN Pilot.



The two aims were:

- to improve access to the already established accelerated silicosis assessment pathway by having an occupational health nurse(s) undertake the initial assessment (questionnaire already available as part of the assessment pathway) at the place of work and encourage individual workers to visit a medical practitioner.
- to identify barriers for individuals to get assessed for accelerated silicosis through the current assessment pathway.

The budget provided by MOH for the project was \$20,000 and this limited the number of workers that the OHNs could assess to 20. Given the time sensitivity of AS disease, this project scoping process was frustratingly long and slow, and the 8 contracted hours were exceeded early on. We were back to donating our time. There were considerable barriers to overcome for the crown entities to work with OHNs and OPs, which is surprising since there is such an established history of partnership, and occupational health practitioners are registered health practitioners in good standing. Issues to be worked through for the AS OHN Pilot design were ethics approval, payment processes, reporting lines, and alignment with each government agency's remit. For future efficiency, this could be addressed by establishing a national occupational health surveillance strategy and operational structure which will have worked through all these concerns and facilitate a smooth and nimble process to meet workers' needs.

In November 2022, one year later, the AS OHN Project started with the five companies that had been recruited by WorkSafe inspectors, and four OHNs contracted by MOH- two experienced OHNs to deliver the OHN services (Annette Stubbersfield and Wendy Spence), and two OHNs sharing project management support (Heidi Börner and David Browning). The OHNs approached Dr. Alexandra Muthu to provide Occupational Physician services for workers who opted to proceed with an occupational physician rather than their GP. With the consent of the workers, Dr. Muthu reviewed the histories taken by the OHN, lodged an ACC claim for the workers who met the AS Pathway criteria, and liaised with workers' GPs where there was one.

In January 2023, the OHNs approached the businesses that had been selected by WorkSafe inspectors. The time delay here was due to the businesses having their busiest time in summer, and due to summer breaks for workers.

The first worker assessment was January 27, 2023, and 19 AS claims for the workers were lodged as of 8 March 2023, with the 20<sup>th</sup> lodged on 12 April 2023. 100% of the workers chose to lodge the ACC claim via Dr. Muthu. Therefore, the OHN team was able to complete and lodge 20 assessments and claims in 10 ½ weeks. The role of the WorkSafe inspector was integral for referring the businesses into the project as it greatly facilitated the OHNs' approach to the businesses.

The OHNs were able to visit the workplace premises. They reported that, regardless of whether the businesses had been through the [Respirable Crystalline Silica \(RCS\) Accreditation Programme](#) there was evidence of a significant amount of dust present in these workplaces to indicate that the controls in place were not effective in controlling RCS dust exposure.

From February 27, 2023- June 2, 2023, in the weeks after OHNs completing the initial history and assessment, the OHNs followed up with the workers to check in with them in terms of progress along the AS Pathway, registering barriers, and to provide psychological support as and where the need indicated. These follow ups were planned at a monthly cadence for three months, with the last of these being completed on June 16, 2023. As per ACC and MOH's directive on March 29, 2023, the OHNs did not provide active assistance for workers to progress along the AS Pathway. However, on May 1, 2023, the OHNs notified ACC that workers were trying to get their tests completed on their own, s 9(2)(g)(i)

. The OHNs felt they had a duty of care to assist, so they began to actively assist workers by coaching the GPs and workers in navigation of the AS Pathway. The way the OHNs assisted was by helping the worker to contact ACC case managers, assisting the GPs with information, setting up their test appointments, reporting when the test providers could not carry out the test because of payment issues, and emailing and calling the ACC Gradual Process Case Managers. This is discussed in depth in the barriers section below.

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## AS OHN Pilot

### Project scope: Accelerated Silicosis (AS) Occupational Health Nurse (OHN) Pilot

The scope of the AS OHN Pilot:

- Accelerated Silicosis only – the other two types (Acute and Chronic) were excluded.
- Population: 20 workers in s 9(2)(b)(ii) for workers working directly with engineered stone.
- Type: Voluntary participation for workplaces, and workers with signed consent.
- Industry: One subset of the New Zealand construction/aggregate and stone industry – Engineered Stone fabrication. s 9(2)(b)(ii) out of 130 known ES fabrication businesses.
- Number of operational OHNs: 2 delivering worker assessments, education, exposure histories, follow ups. Claims management was excluded.
- Number of supporting OHNs: 2 supporting OHNs with MOH contract preparations, report writing, contact with ACC, WorkSafe and MOH, overview of project progress, electronic data capture, letters to GPs, claims lodgment with Dr. Muthu. and other administrative and project management support.
- Number of support Occupational Physicians: One
- Length of project: 6 months, with extension as needed.
- Funding: \$20,000 from MOH.

### Project Aims

These are the project aims as stated in the OHN Project Manager contract with MOH:

“The Ministry of Health is seeking to undertake a pilot study to increase access to the accelerated silicosis assessment pathway. The aims of the study include:

- To assess the impact of occupational health nurse(s) undertaking the initial assessment (exposure questionnaire already available as part of the assessment pathway) at the workplace and encourage individual workers to visit a medical practitioner for a health check. This will be measured indirectly through whether there is an increase in ACC claims following the occupational health nurse assessments.
- To obtain informed consent from individuals to be involved in the pathway, and if they choose not to engage with the pathway, to understand what alternative options they may wish to consider.
- To deliver outcomes that inform future work on dust diseases, including increasing our understanding of the barriers to having a health check, and characteristics of barriers that are preventing access to the pathway.

The specific deliverables under this contract are outlined below:

- attend an initial meeting / training session to ensure the end-to-end pilot study and the role of the occupational health nurse is well understood.

- access and process a worker’s previous occupational health records, if relevant, to support the onsite exposure assessments.
- support the referral of workers to a medical practitioner, when relevant.
- create reports summarising the outcomes of the onsite assessments, including information on any identified barriers to workers accessing the assessment pathway and their experience of the process.
- facilitate the engagement of translators to support occupational health nurse(s) as required. “

## AS OHN Pilot Steps Completed

### July 2022:

WorkSafe Inspectors had visited engineered stone workplaces in order to educate about the dangers of inhaling the dust, and about the AS Pathway that was available through ACC for assessment, diagnosis and ongoing support. The OHNs asked that this relationship with employers be used to recruit workplaces into the AS OHN Pilot.

### November 2022:

WorkSafe provided the list of recruited businesses to the OHNs. Originally the WorkSafe inspectors were recruiting businesses in the Auckland area because there is a high concentration of engineered stone businesses there. They were unable to recruit enough businesses in Auckland, and therefore turned their recruitment to Wellington. A list of five businesses, § 9(2)(b)(ii) from Auckland and § 9(2)(b)(ii) from Wellington, was provided to the OHNs to follow up.

### January 2023:

After the busy summer period for the engineered stone businesses, the OHNs contacted the 5 businesses to arrange the assessments for their workers. § 9(2)(b)(ii) business from Auckland agreed to continue, and the § 9(2)(b)(ii) businesses from Wellington agreed to the assessments for their workers. § 9(2)(b)(ii)

### 27 January 2023:

The first worker health exposure history, assessment and education session was completed.

### 28 February 2023:

19 worker health exposure histories, assessments and education sessions were completed.

### 20 March 2023:

The final worker health exposure history, assessment and education was completed. This one was delayed due to worker availability.

### ACC claims lodgment:

All workers who were assessed met the Accelerated Silicosis Pathway entry requirements: have worked for more than six months with engineered stone in the last ten years. The OHNs discussed the option for the worker to visit their General Practitioner in order to lodge their ACC claim, or to have the claim lodged by the OP, Dr Alexandra Muthu. The reasons for workers choosing Dr Muthu to lodge the claim were:

- they did not have a GP;
- they could not take the time off work to wait for a GP appointment or to travel there;
- they did not want or could not pay for a GP visit;
- it was convenient for them to lodge the claim as part of the OHN assessment.

GP contact details were entered into the AS history forms. ACC 45 Claim lodgement by Dr. Muthu occurred within 1-7 days after the worker's initial OHN appointment.

### AS Assessment and history, Consent Forms sent to ACC

For the first 15 claims, there was a misunderstanding which resulted in delays of between 3 and 7 days in sending through the supporting information to the Gradual Process team. The documentation included the AS assessments, the exposure history forms, and the consent forms. The OHN Project Managers had understood that the claim would be lodged using the ACC45, and then we would send through the supporting information directly to the gradual process team and not via the main ACC claims e-mail: [hamilton.registration@acc.co.nz](mailto:hamilton.registration@acc.co.nz). On March 1, 2023 the MOH notified us that the history and consents should be sent at the time of ACC45 lodgement. All the information was then sent through to the Gradual Process team on 3 March 2023 as requested by the ACC s 9(2)(a) [REDACTED]. After that the remaining claims were sent with complete information to the main ACC claims email ([hamilton.registration@acc.co.nz](mailto:hamilton.registration@acc.co.nz)).

### ACC claim communications

ACC received the ACC45 and lodged the claim to enable the worker to have their tests approved and paid for. This step was needed before workers could go for testing. It was difficult for OHNs to understand who ACC had sent the claim lodgement letters to, but it seemed that ACC sent letters to the worker's GP that was listed in the AS Exposure History taken by the OHN, and the lodging physician, Dr Muthu, did not receive a copy. It was difficult to tell this because the workers often did not receive any communication or notice from their GP to undertake the tests. In other cases, the GP asked them to come for an appointment but then was unable to determine which tests were required. For example, the GPs needed to know exactly what tests were required for the "Autoimmune Panel". OHNs had to rely on worker reports for this communication because we were not able to obtain information from ACC on behalf of the worker, and the worker did not have the knowledge to ask ACC the right questions.

Ordinarily, the OHN would obtain consent from the worker to allow information to be released between the OHN and the GP in order to assist with management of a claim, and to support the worker to navigate the health landscape.

## Consents

Consents were developed and approved by all parties in the scoping and development of the documents for the AS OHN Pilot. The OHNs collected the worker consents during the assessment process, and our assumption was that this would enable communication with ACC regarding the workers' claims. The AS OHN Pilot Project Managers attempted several times to talk to gradual process claims managers about the progress of claims but we were advised that we were not able to receive any information about the claim, and that this was by law. This was after an email from s 9(2)(a) ACC who said on March 2, 2023 "additional consent from the clients is needed to be able to let you know about the status of the claims and the cover assessors will check with the clients about this. (Please be aware that we won't be able to provide any specific information on claims without consent to share information). Could you please confirm that it would be you that we would update on the claim status and how we would do this (e.g. which email address)". We were unable to make further progress on these additional consents, and so we raised this in a meeting on 29 March 2023 with ACC and the Ministry of Health, and were told again that we did not have clearance to speak to ACC regarding the workers' claims, because we were OHNs and that this was by law. Dr Muthu was also told at that meeting that she did not have access to the workers claims information either, despite having lodged the claim. The project OHNs and Dr Muthu have been working with ACC claims for many years, and we have never experienced this before, nor can we find this in any legislation. We are all registered health professionals in good standing, with consents from workers to discuss their claims. We therefore believe that this is a misinterpretation of the legislation and consent should be clarified for ACC case managers and health providers.

## Worker GP letters from the AS OHN Pilot team:

19 of the 20 workers gave their GP contact details and wanted the GP to know about the assessment results. One did not have a GP. On 11 May 2023, 19 GPs were sent a letter telling them about the AS OHN Pilot and that their patient had been assessed by an OHN. They were also sent the ACC 45 claim number, consent and the workers' AS exposure history forms for their records. We received a reply from two GPs stating that the worker was not listed as their patient. The OHN intervention was to discuss this during the follow ups with the worker, and find out the correct GP. For those without a GP, Dr Muthu was able to provide test forms.

## ACC case review (Step E of the AS Pathway):

In this step, ACC reviews the results of any the blood/urine, spirometry and HRCT tests completed and issues a cover decision. According to the information received through Dr Muthu and the workers, as at June 16, 2023, 20 weeks after the first worker had their claim lodged, s 9(2)(a) and one worker was referred for August 2023 for further

assessment (DLCO and Pulmonary Specialist Assessment). The claim status of the remaining 16 workers was unknown.

### OHN Follow ups

OHN practice standards and duty of care are based on the nursing process of assess, plan, implement and evaluate, tailored to a workplace environment and culture.

Evaluation includes following up with workers and to assist them through workplace adjustments and health systems where required while supporting their right to choose or decline care by making informed decisions. The OHN role is to collaborate with the workers, the workplace managers, other health care providers, family and government departments such as ACC, MOH, WorkSafe, and in some cases MSD, IRD, MBIE, MOJ and Corrections. OHNs are committed and obligated to deliver the highest possible care for their workers and workplaces in order to prevent illness and to promote health. Clause 2.3c of the contract with MOH states for this OHN project that we would deliver services “with due care, skill and diligence, and to the appropriate professional standard or in accordance with good industry practice as would be expected from a leading supplier in the relevant industry.” (GMC Form 1 SERVICES | Schedule 2 (2nd Edition)). For this Pilot, we are operating according to best care standards. **s 9(2)(g)(i)**



Figure 3: Nursing Process in an Occupational Setting

OHNs operate by evaluating the impact of work on health, and health on work.

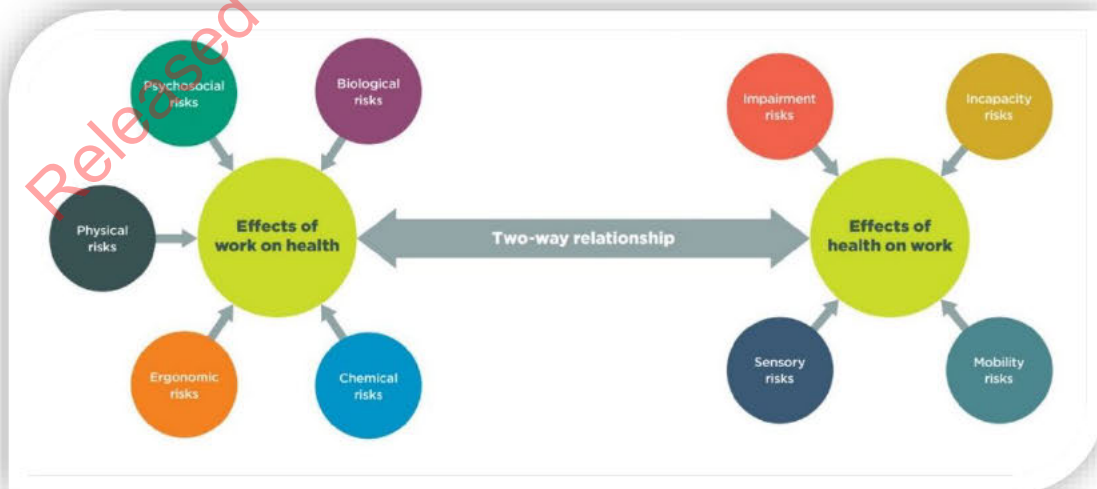


Figure 4: The relationship between the effects of Work on Health and Health on Work

Usual and acceptable OHN practise would be to assist workers through the AS Pathway while documenting barriers and assisting workers to manage the barriers, and this was the assumption made by all the OHNs at the outset of this project. It was also presented in the OHN Aims of the project at the outset in 2021 to ACC, MOH and WorkSafe.

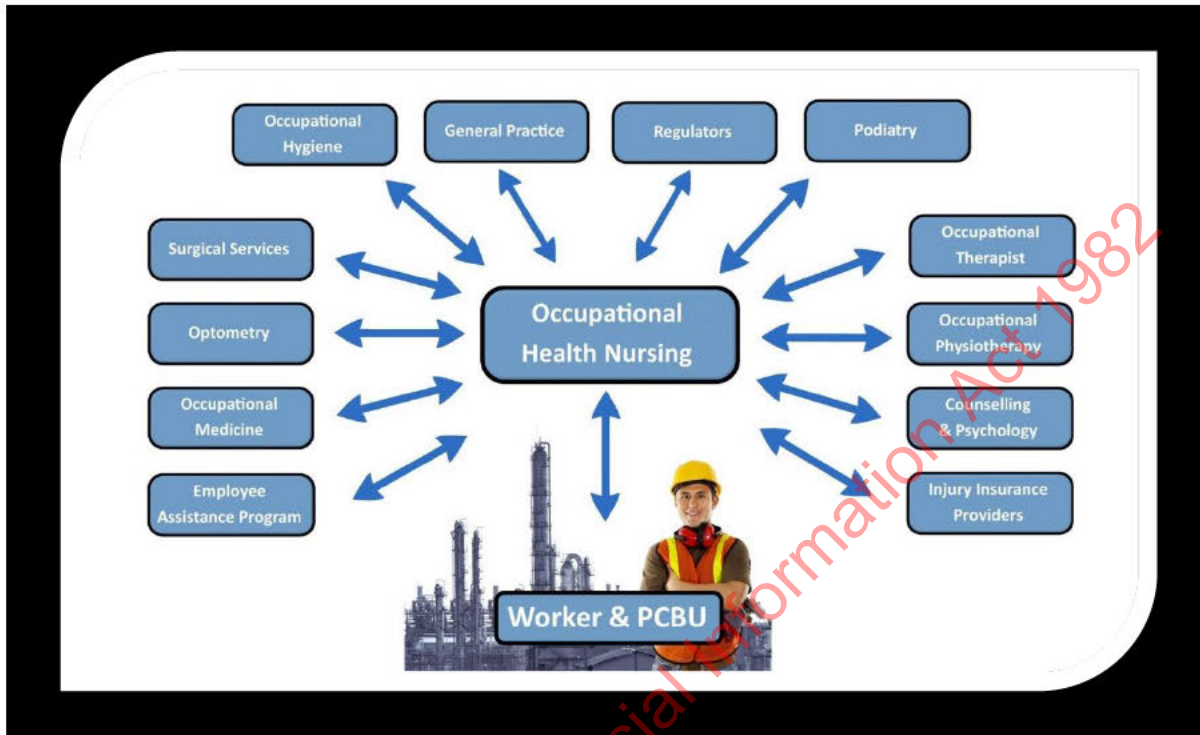


Figure 5: OHN Interaction with agencies, often playing the part of Navigator and go-between partnering with the PCBU and Worker to facilitate this navigation in order to overcome the inherent barriers with accessing healthcare. It is well known in the profession that medical professionals, such as General Practitioners and Occupational Physicians benefit greatly from the information gathered and passed on by the OHN, helping with simplified decision making and progress through these systems. The Occupational Health Nurse advocates on behalf of the PCBU and the Worker in these interactions, with the goal being creating a safe and healthy environment for the worker during recovery from an injury or adverse health event.

At a meeting on 29 March 2023 with ACC and the Ministry of Health, the AS OHN Pilot Project Managers were told that the OHNs were to withhold assistance to workers in order to identify the barriers that workers face when navigating the current AS Pathway. The OHNs were told to direct workers to call ACC on the 0800 474 792 number so that ACC could facilitate their progress.

The OHNs complied with that directive from 29 March to 30 April and in the OHN follow up conversations with workers, workers verbalised that they were struggling to find their own way through the AS Pathway, and this was leading to anxiety, distress, frustration, and time delays. These workers had just been advised that their exposure met the threshold for further health investigation, and they were unable to progress this. Many had not received ACC information regarding their claim or had not followed through with the advice to seek testing. We notified ACC and MOH on 1 May 2023 that the OHNs would commence actively providing assistance during the follow ups to help workers move along the AS Pathway and provide pathways/opportunities to address the mental health changes that were observed. The rationale for OHNs was that it is in the best interests of the workers to ensure that they have the health investigations on the AS Pathway because their histories had showed that their



exposure had met the testing criteria. The OHNs recognised the time sensitivity due to the rapid progress of the disease, and the psychological stress that workers expressed.

## Final Report and Recommendations

This report was completed and submitted to the Ministry of Health on June 30, 2023.

### Results

As at June 16, 2023, we have collected the following data from workers regarding the tests they have completed. We were not permitted any information from ACC to compare or inform us as to the workers' completion of tests, and it would be important to see how this information matches with ACC's.

s 9(2)(a) s 9(2)(a) s 9(2)(g)(i)

In extrapolating this information to the many NZ workers who have not yet been assessed, we must be mindful that these s 9(2)(a) businesses participated voluntarily in this AS OHN Pilot, and had some confidence in their controls. s 9(2)(g)(i)

The OHN AS assessments and exposure history took an average of 1.5 hours per worker. The OHN follow up emails and calls with workers took 2 hours per worker over three months. The OHNs also had calls and meetings with the businesses/PCBUs explaining RCS exposure and the AS Pathway to them.



ACC 45s lodged for worker:

Yes: 20

No: 0

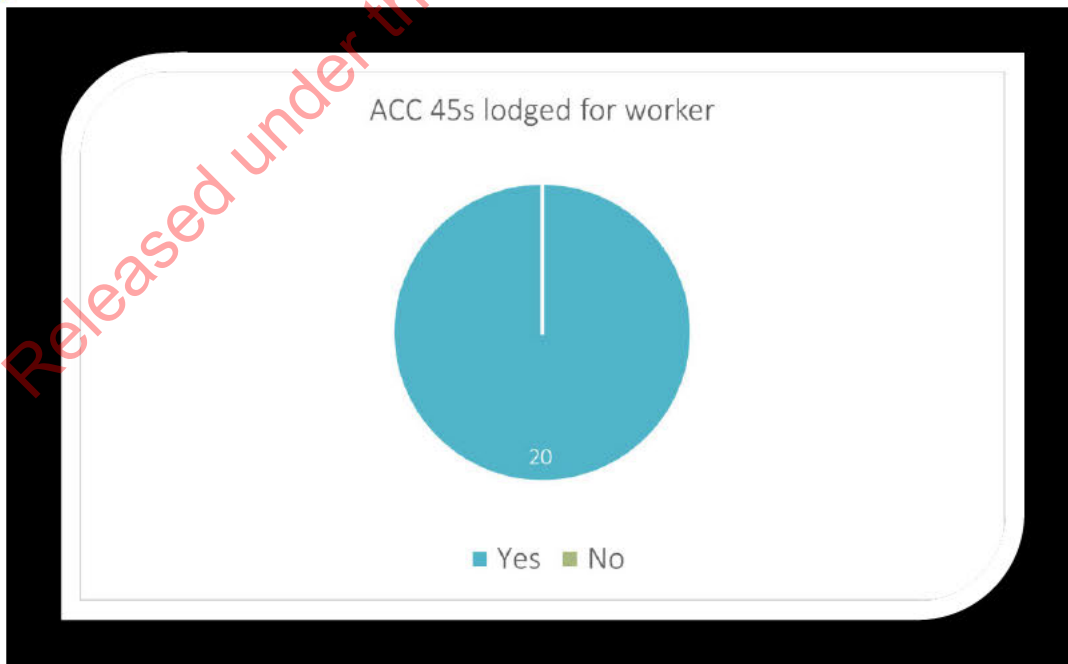


Figure 7

Workers opting for ACC 45s lodged by Occupational Physician:

Yes: 20

No: 0



Figure 8

Workers' satisfaction with OHN history-taking and support

Yes, Satisfied: 20

No, Unsatisfied: 0

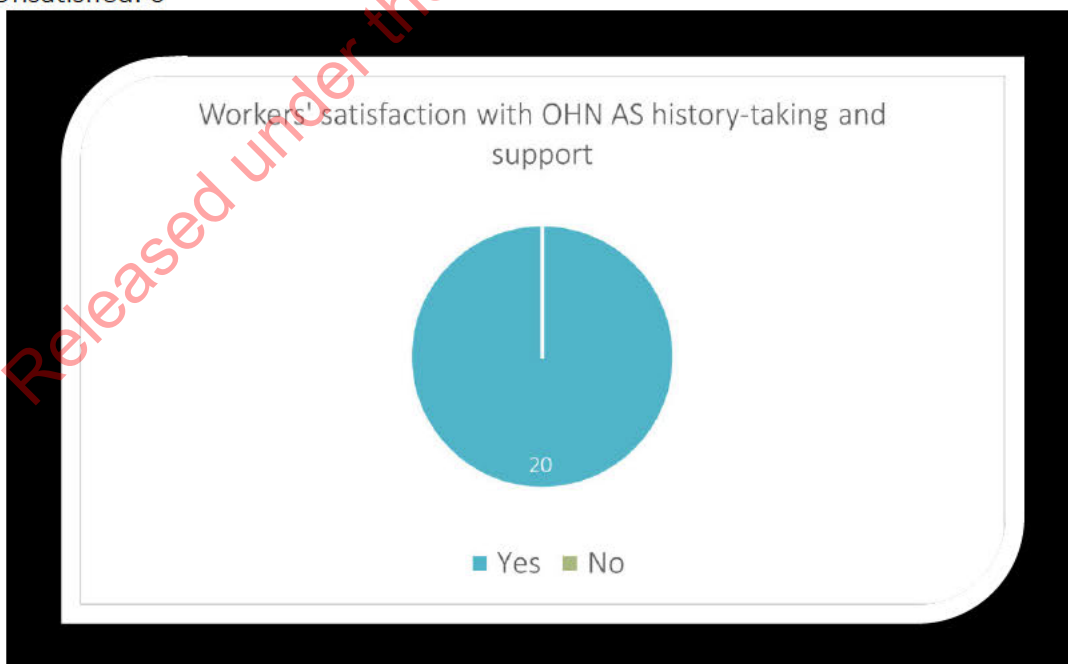


Figure 9

## Actions Taken by OHNs at the Assessment

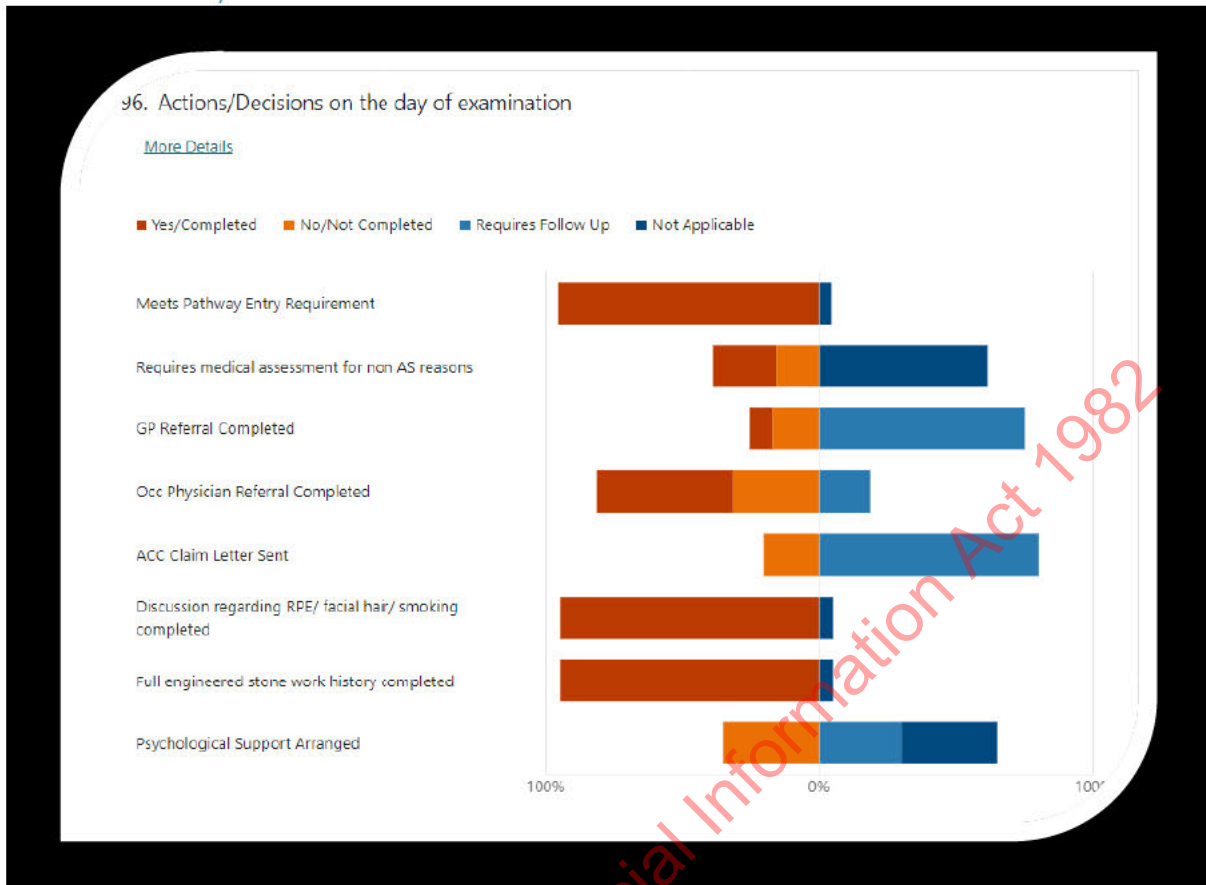


Figure 10: Action taken post assessment by the OHNs

## Current Exposure

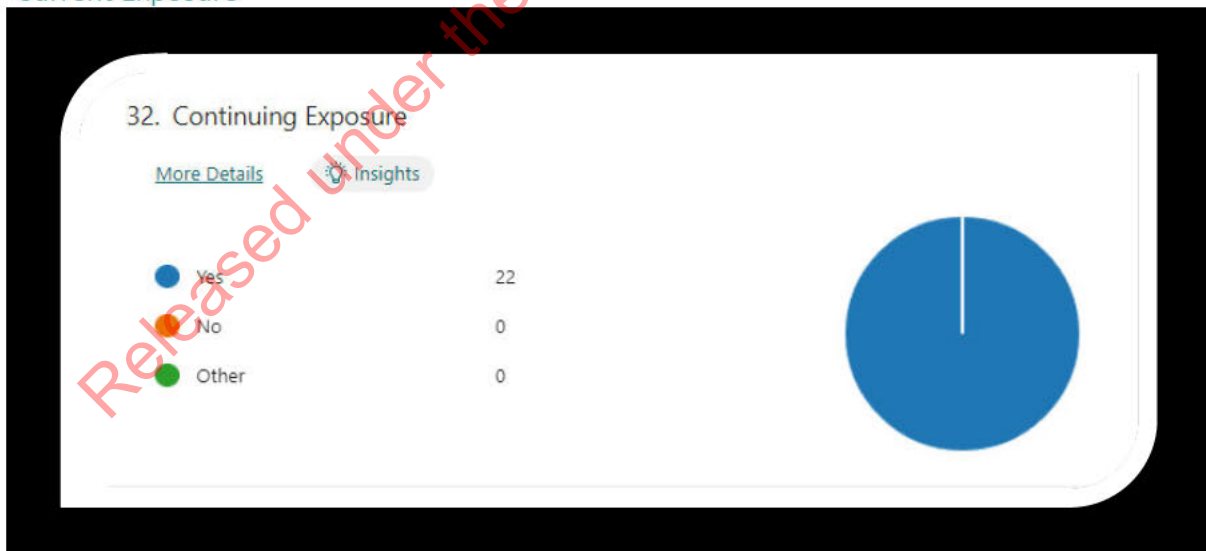


Figure 11: Answers to Are you still working in the (Engineered Stone) Industry

### Overseas Exposure

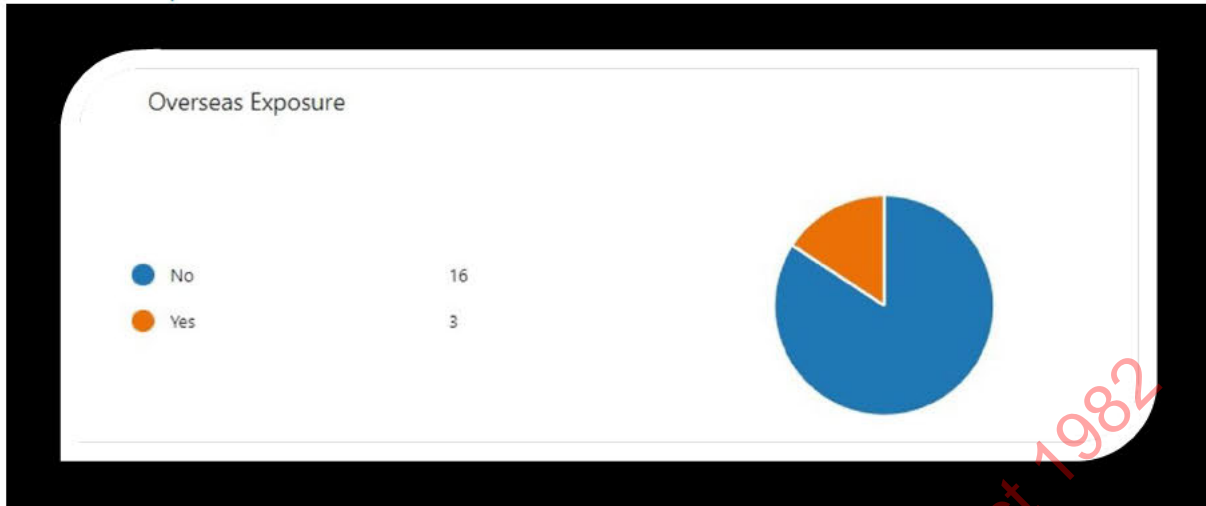


Figure 12: Have you been exposed to engineered stone silica dusts overseas? NOTE: There was no response recorded for one participant worker.

### Sizes of PCBUs worked in

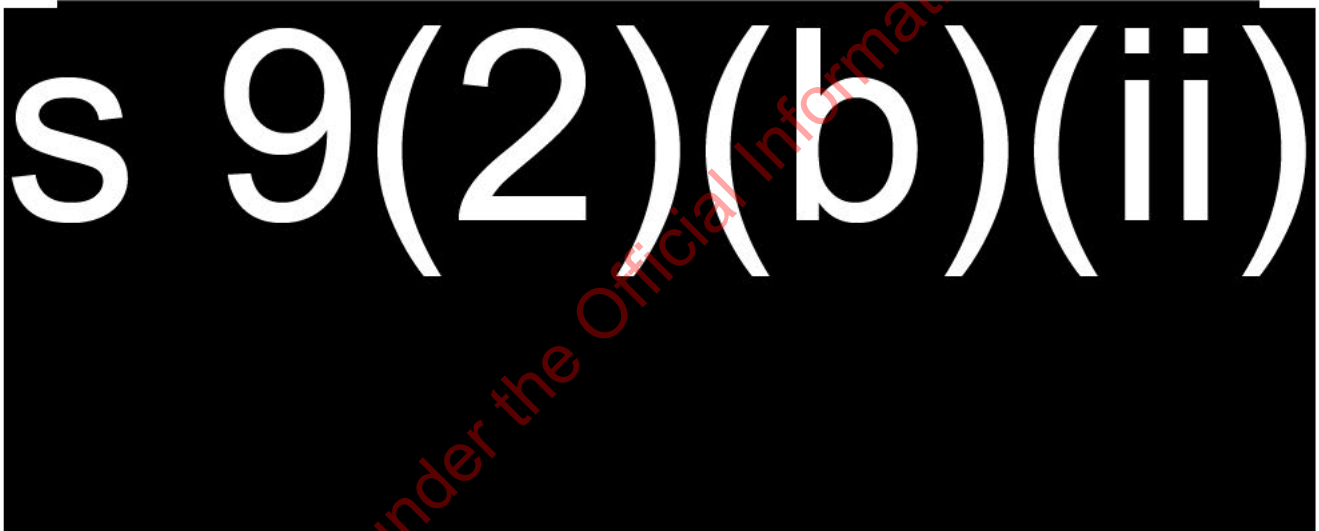


Figure 13: How many people do/did work at this PCBU? (Past and present workplaces)

Proportion of time wearing respiratory protection whilst exposed (current and previous workplaces)



Figure 14: What proportion of time during exposure do/did you wear your respirator/mask?

Proportion of time at work with engineered stone exposure



Figure 15: What proportion of your time involved engineered stone silica dust exposure?

Incidental Exposure (Current and previous workplaces)



Figure 16: What proportion of time do/did you spend near someone else doing dry work (without use of water) since starting this job?

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## Formal AS OH Pilot short questions for workers experience

The workers were asked 3 questions by the OHN which were formally captured (where possible) during their first interview and assessment:

- 1) Rate your previous experience in seeing your GP for this process in the past out of 10?
- 2) Rate your experience with ACC for this process in the past out of 10?
- 3) Rate your experience with the AS OHN Pilot (this process) out of 10?

### Results:

Rate your previous experience in seeing your GP for this process in the past out of 10?

Score	Number of answers
5/10	2
8/10	2
Did not see the GP previously (not applicable)	9
Declined to answer or were not asked	7

Rate your experience with ACC for this process in the past out of 10?

Score	Number of answers
5/10	1
7/10	1
10/10	1
Did not interact with ACC (not applicable)	8
Declined to answer or were not asked	7

Rate your experience with the AS OHN Pilot (this process) out of 10?

Score	Number of answers
9/10	3
10/10	11
Declined to answer or were not asked	6



s 9(2)(a)

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s 9(2)(a)

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s 9(2)(a)

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## General Worker Comments regarding AS OHN Pilot and OHN interview

- 1) Has welcomed the information and interview and thanked our team for completing this work. Appreciates that there is a follow up scheduled.
- 2) Welcomes having the option of entering the AS Pathway.
- 3) He rates his (OHN) interview 10 out of 10.
- 4) Pleased that he has had the opportunity to participate to get into the AS Pathway. Has cleared up some questions.
- 5) Communication with OHN good- but process a bit drawn out over assessment referral and notification from ACC.
- 6) This worker would have missed his opportunity to have the tests completed in time if the follow up phone calls had not occurred & manager's support to go for these.

## Occupational Health Nurse observations/comments from the PCBU perspective (anonymised)

Was asked by the director (IMPAC) to cease requesting clarification regarding audit accreditation.

s 9(2)(a)

Training required on how to clean RPE.

Previously accredited with gold standard by IMPAC prior to the OHN visits.

PCBU had a recommendation from the OHN to undertake laundering onsite and to supply work pants and tops for the workers. This is now actioned. The workers understood the reasoning and the manager had this in place within 2 months.

Dry cutting is undertaken in a PCBU which has achieved the gold accreditation standard. There was no physical barrier between the dry cutting area and the rest of the workshop (approx. 15m length) – OHN made a recommendation to enclose the area, at minimum a curtain – this was actioned by the PCBU. (Note: Dry cutting is not permitted under the RCS Accreditation).

RPE was only worn in the dry cutting workshop, despite the area being previously open. Could not make the connection between dry cutting (which had the highest level of RPE in situ) and airborne silica moving through the air to places where no RPE was worn. Despite 2 x WorkSafe inspector visits, hygienist visit and IMPAC accreditation process – and visible dust present on surfaces in all areas of the workshop.

Laundering of work clothes on-site noted. Cleaning clothes & PPE after working in dry (cutting) room.

Review use of overalls and laundering on site. RPE & mask fit testing (recommended).

Mask Fit testing, laundering & showering (occurring) on site.

Appropriate storage of RPE requires revision.

Had been seen by a hygienist, sampling undertaken. Meticulously clean – no dry cutting observed. Wet cutting methods in situ.

Respiratory protection inadequate P1 disposable respirator. Respirator was in poor condition – the white (disposable) mask was a grey colour and obviously had been worn many times rather than disposed of. No fit test undertaken. Requires a rubber/latex mask with P2/3 filter and fit test at a minimum.

Good to see that fit testing was done last week and had been done yearly. Good controls in place, extraction and ventilation are present and used. Wet processes are in use for all processing of product. Did online training awhile back.

Worker comment: Can no longer taste silica once the curtain was put up for dry cutting, this removed the ability to taste the silica in the air.

Water channels implemented, and other channel added, wet slurry is then bagged and removed by specialists.

Accreditation Gold Standard – awarded to a business who was undertaking dry cutting, where 2 who were not dry cutting did not receive gold standard.

Changes to laundry on site were completed as per the AS OHN Pilot OHN's recommendation.

At 3 PCBUs, no-one wears a respirator unless dry cutting (not wearing them for wet cutting)

2/3 of the PCBUs in this cohort went for accreditation but failed to implement the best standards at times.

An air compressor was being used for cleaning clothes of engineered stone dust. (Under RCS Accreditation this is not a permitted practice.)

Respirators only worn in dry cutting/sanding room. Dry cutting room has no door and is open towards the workshop with other workbench's outside.

Using compressed air to get dust of clothing and other PPE while wearing respirator before exiting dry room.

## External Results

Blood and urine tests completed:

Yes – 13

No – 6

Unknown- 1

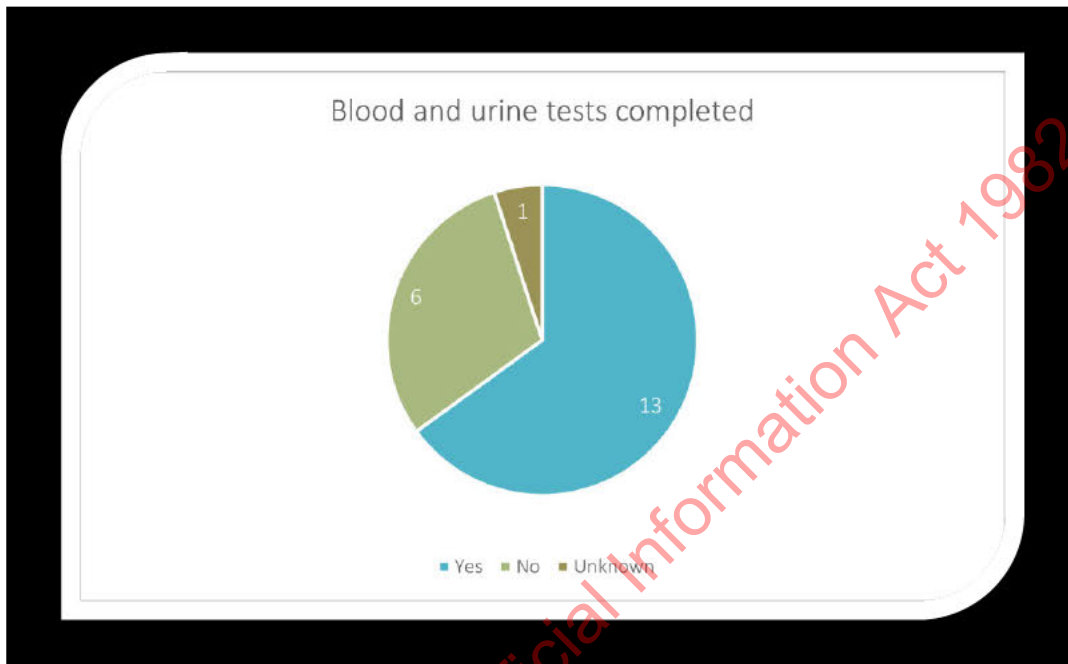


Figure 17

High resolution computed tomography (HRCT) completed:

Yes: 10

No: 8

In process: 2

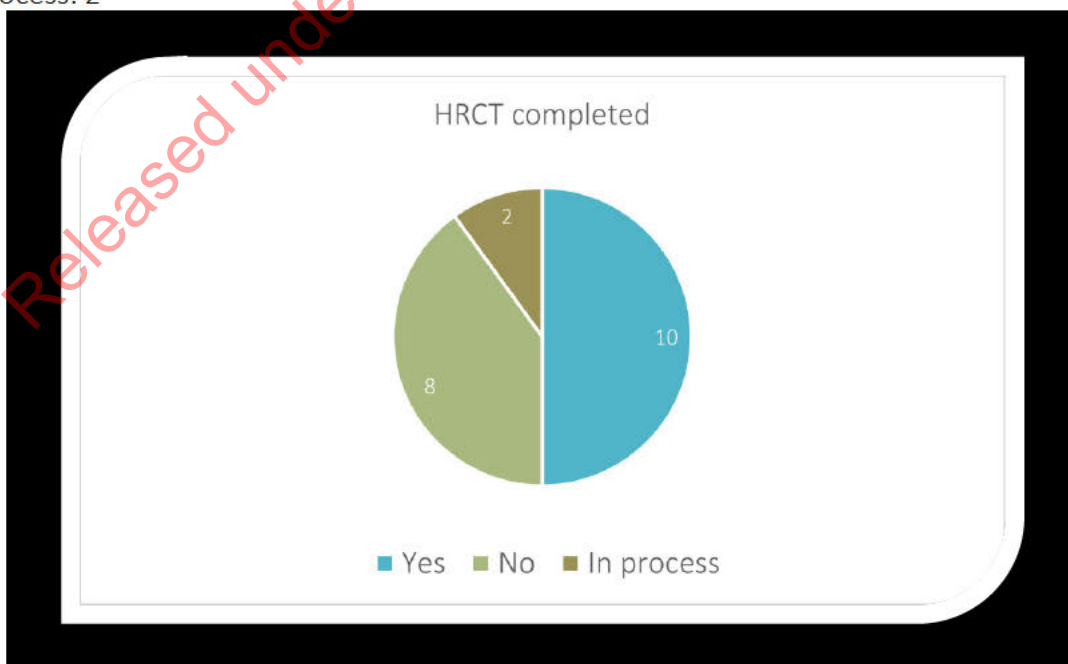


Figure 18

Spirometry completed:

Yes: 9

No: 8

Unknown: 3

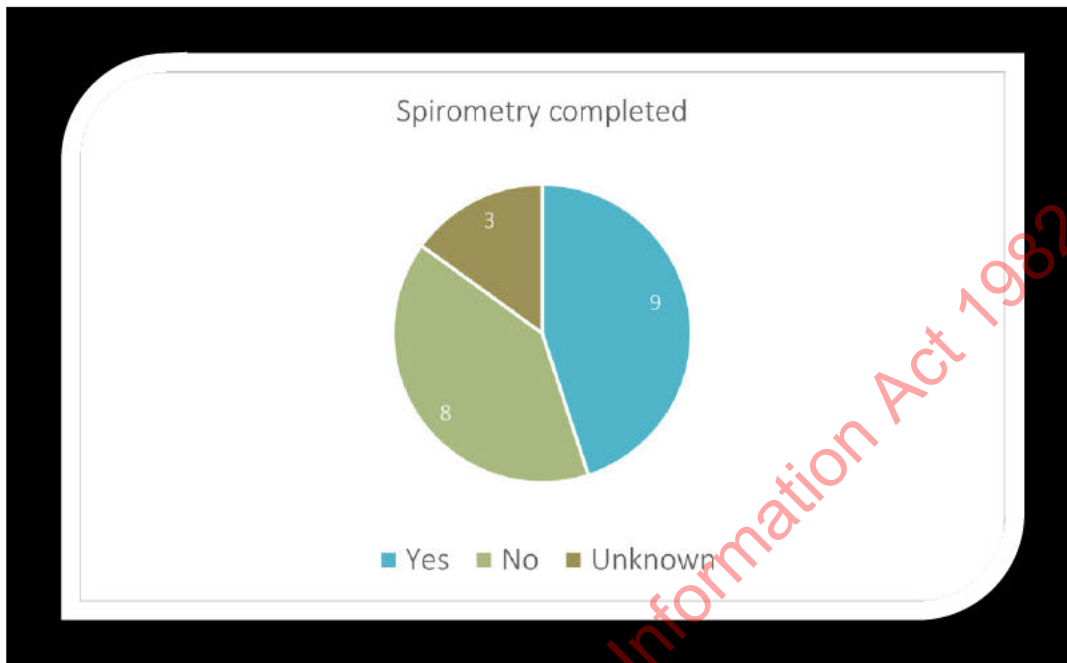


Figure 19

Diffusing lung capacity for carbon monoxide (DLCO) and pulmonary specialist assessment:

Yes: 0

No: 20

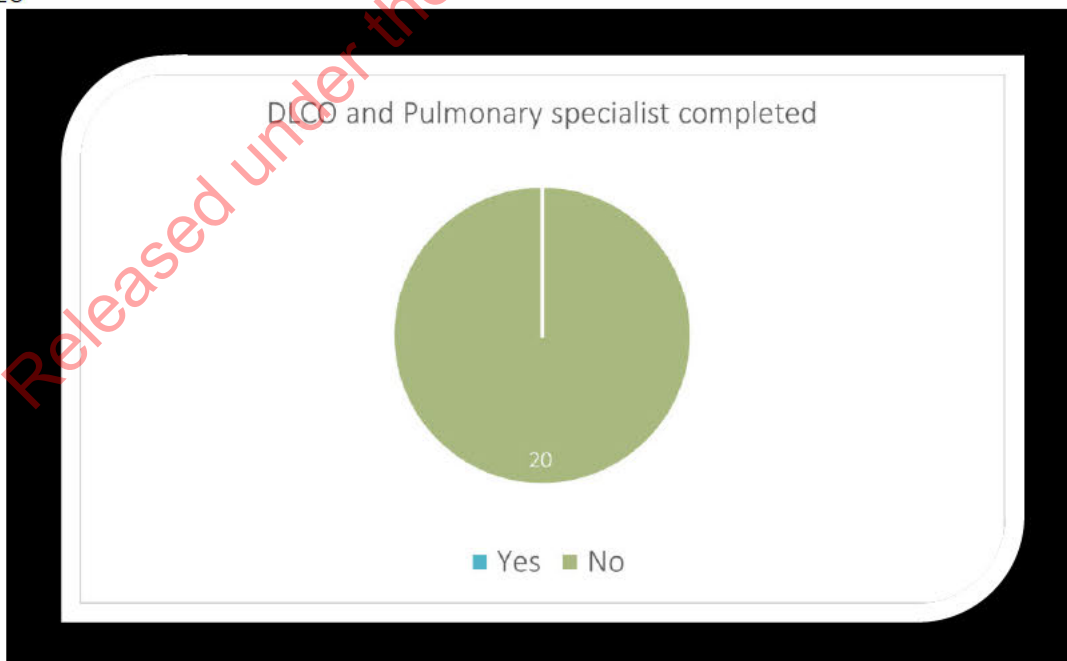


Figure 20



s 9(2)(a)

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## Discussion

### Enablers

The collaboration with WorkSafe inspectors resulted in easier access for the OHNs. The inspectors had an existing relationship with these workplaces due to previous inspections and conversations around reducing the harm of silica dust. Therefore, it made sense for the inspectors to return to these workplaces and suggest participating in the AS OHN Pilot. OHNs are private providers and therefore don't have a mandate to cold call workplaces and invite them into a government programme. In regular practise, OHNs will call a business and discuss the services they can deliver and the value they can provide to support worker health and prevent serious disease. Having the backing of WorkSafe, ACC and the MOH to access workers for the AS OHN Pilot meant it was easier to gain the participation of workplaces and workers.

Going forward, this needs to be factored in. The establishment of a national occupational health service would provide a mandate for health providers.

### Barriers

There were many barriers for the OHN project team to overcome to get this project underway. In addition, there were many barriers facing workers, health practitioners, and businesses during the course of the project. I have outlined these below in order to inform how national occupational health surveillance and health monitoring could be implemented efficiently and easily for all parties, and to facilitate extension to other workplace health risk. In listing these barriers, there is no intention to apportion blame to any party. As part of this pilot, we agree that all parties had the best of intentions. Collectively what lets us down is system deficiencies. We have the expertise and right people, but our systems are not always fit for purpose. The end result is that workers are being missed and bear the brunt of the health risks because they work in the front line with significant exposure.

#### 1 System barriers

##### 1a. No co-ordinated approach

An assumption that creates a very large barrier to an efficient system is that one party, agency or professional is equipped and able to conduct health monitoring and surveillance across all New Zealand workers. This was a tiny project, and it still demonstrated very clearly the need for communication and collaboration across agencies, providers and health service consumers.

A national occupational health service to co-ordinate the collection of workplace health data from across New Zealand would be well-positioned for alerting workplaces early of health risks that workers are facing, and for informing about the effectiveness of prevention measures. Health risks include hazards from a number of sources: biological, chemical, physical, radiation, falls, noise, dusts, fumes, vapours, smoke, heat and cold; and psychosocial hazards such as burnout, fatigue, interpersonal conflict, violence, stress and there are many

more. In addition, many workplace risk assessment and management processes fail to take into consideration that tasks that can be higher risk for workers and the public due to the impact of existing health issues such as poor vision when driving or operating machinery, uncontrolled diabetes on machine operation safety and working at heights and others. In this pilot we identified that fear of knowing personal health status, fear of reporting to agencies, and fear of losing employment significantly impacted workers' health and led to playing down, hiding or under reporting symptoms and worker exposures. A co-ordinated strategy that puts workers needs at the centre and supports them with multi-disciplinary expertise would help tremendously.

### 1b. Weak drivers for PCBUs to protect health

This small pilot included a sample of workplaces that had already been visited by a WorkSafe inspector, had agreed to talk to the inspector again when they were contacted to participate in the AS OHN Pilot, and agreed to accommodate the OHN visit. The inspectors had tried to recruit workplaces in Auckland – we were told in October 2022 that inspectors had contacted 26 workplaces in the Auckland area (20% of the engineered stone workplaces identified) and yet only two accepted the opportunity of free healthcare delivered at their place of work, minimizing downtime and disruption for themselves and their workers. While there might be various reasons for this, it does show the difficulty of getting the health message across to businesses and employers.

What we are missing from this AS OHN Pilot are the worst-performing engineered stone workplaces that are carrying out high risk practices without anyone knowing the health effects. There are currently no drivers that compel them to test their workers. Drivers could come from WorkSafe enforcement, mandatory industry accreditation, purchasers of their product demanding safe workplaces practices, or workers declining to work in unsafe environments. An opportunity exists to use the same messages reinforced by multiple stakeholders and agencies to create better drivers.

In the workplaces taking part in the AS OHN Pilot, the OHNs observed some good practices, but also a significant amount of dust on the floor and on surfaces, and the use of respirators that were not fit for purpose and/or used incorrectly. This was consistent with the WorkSafe inspectors' report of practices. The problem with Respirable Crystalline Silica (RCS) exposure is that there must be rigorous separation of dust from humans, and the margin of error is tiny, measurable in micrograms. Any exposure is bad for health. The RCS Accredited workplaces that took part in the pilot may have passed their accreditation at some point, but many of the best practices had either lapsed, been misinterpreted or not assessed in person, face to face at the workplace. The opportunity to physically visit these workplaces as an occupational health expert not only brought to light the differences between best practice and reality, but provided an immensely valuable opportunity for the OHN to educate both the employer and the worker in elevating reality to that best practice standard in a non-threatening environment.

### 1c. Reliance on GPs for workplace health rather than Occupational Health Professionals

There is a lack of knowledge within many workplaces of how to assess health risks and how to monitor the health of workers. The current AS Pathway requires workers and workplaces to rely heavily on assistance from the GP for direction.

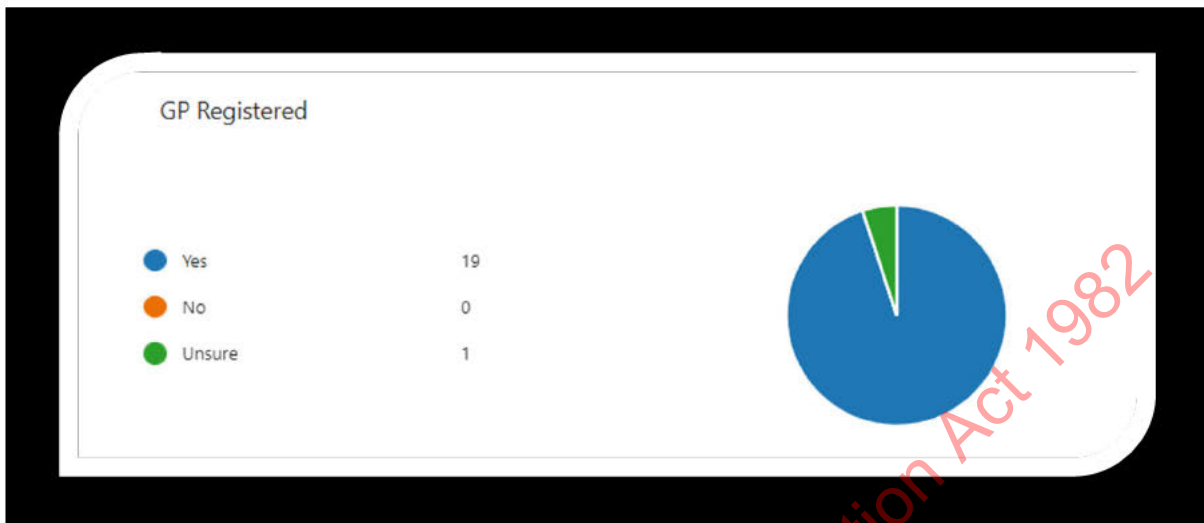


Figure 22: Number of workers in the pilot who were GP registered

Several GPs contacted OHNs during the AS OHN Pilot to say that they did not know about Accelerated Silicosis and did not know where to find information about it and the required testing. While GPs have a raft of knowledge and expertise, it does not necessarily extend to workplace substances and risks, let alone how to give advice on best practice and risk management controls. In addition, GPs do not have the time or means to visit a workplace to assess and follow up on worker health. It is for this reason that there are OHNs and OPs who specialise in this field and can collaborate with the GP who is essential to providing the care a patient needs, providing a wraparound service between them.

The Occupational Health professional monitors that the worker can continue to work and is safe doing so, and has the specialised knowledge and experience to do this efficiently and efficaciously. For example, Noise Induced Hearing Loss (NIHL) from occupational causes is one of the most common ACC interactions for OHNs. Due to the way the system is operating, the OHN will normally refer the worker to ACC through the worker's GP. The OHN will normally have a form letter to accompany the referral, and will gather the occupational data, such as work history, occupational hygiene reports on noise levels and audiometry results where these are available, to accompany the form letter referral. Even though this is a very common occupational injury referral for occupational health specialists, s 9(2)(g)(i)

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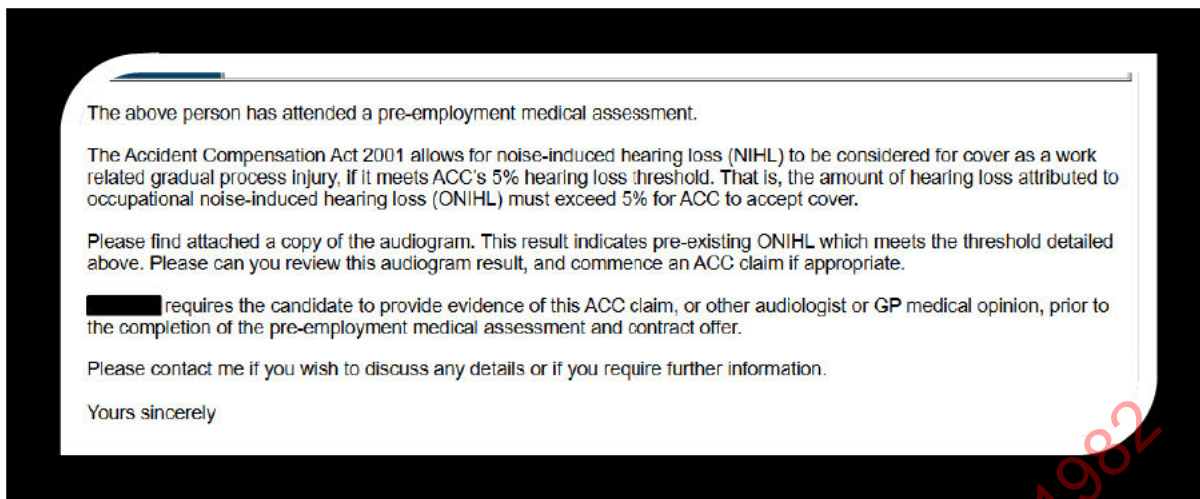


Figure 23: Typical form letter supporting an Occupational Noise Induced Hearing Loss investigation as sent to a General Practitioner

An OHN will usually have a number of such letters in their arsenal to cover the guidance they typically find a GP will require to make an informed clinical decision. On top of this, the OHN will often discuss this process with the worker so they know what to expect, and with their informed consent seek the ability to continue to support and follow up on behalf of the worker through a consent to release information relating to the injury claim back from the GP to the OHN. This is a normal process for Occupational Health Nursing but is often unseen by ACC as the system and legislation requires the OHN to communicate only with the GP or specialist who lodged the claim. Although frustrating, this is how OHNs must operate in order to support their clients, being the worker and the PCBU, in supporting that the claim is investigated on sufficient objective information.

The lack of recognition of occupational health providers by government agencies (including ACC, WorkSafe, and Ministry of Health) is a major barrier to reducing the burden of occupational illness and disease in New Zealand, and the impacts of ill health on the delivery of work. Running occupational health programmes without the right expertise and support from OHNs and OPs is like running a school without teachers, running a hospital without nurses, or playing rugby without players. This attitude must change if New Zealand as a country wishes to reduce the significant burden of occupational disease ([NOHSAC report 2004](#)).

#### 1d. No data management system

Worker health exposure information currently stays within the business or with the worker. Confidential records are held by the OHN or OP. There is no central repository for Occupational Health professionals to send exposure and surveillance data to, so there is no way to evaluate and monitor workplace exposures on an industry or national level. Massey's Centre for Public Health Research counts workplace disease via hospital discharges, but the data has a time lag (8 years), and does not identify causation, early trends and emerging threats to health. There is no way to match what occupational health professionals are seeing in the field with the poor health outcomes that can occur up to 30 or 40 years after the exposure. The former NODS disease register was abandoned by WorkSafe several years ago, except for asbestos. A national health surveillance strategy that is supported by government

but not run or owned by government must be developed which incorporates a data collection, trend analysis and communication of findings to all stakeholders to support prevention efforts. This data cannot remain dispersed in such a way that it prevents research or the provision of lead indicators that can predict work on health outcomes and trends.

### 1e. Bureaucracy of government organisations leading to communication breakdown.

There were many government processes to follow and these impacted communications and relationships. There was a clear lack of understanding by government entities about the role of occupational health in workplaces, and the role and practise standards of occupational health providers (OHNs and OPs). This was demonstrated on numerous occasions during the development and during the operation of the AS OHN Pilot and indeed during the Dust Disease Taskforce meetings. In the scoping phase, the OHNs stated their aims for the project:

#### Occupational Health Nurses

- Contract OHNs to complete the pilot work
- Identify 4-5 workplaces using engineered stone in the south Auckland area.
- Provide education to workers and the businesses regarding the health effects and the AS Pathway.
- Provide education to workers and the businesses regarding the controls and mitigation required to keep RCS levels to below the Workplace Exposure Standard (WES)
- Complete AS history, health assessment, and documentation
- Obtain informed consent from worker to refer for entry into the AS Pathway or not.
- Refer to appropriate health provider for ongoing assessment and support (lab, HRCT, DLCO, GP, OP, psych)
- Provide ongoing care to support worker while waiting for AS pathway, dealing with referrals, collecting testing results.
- Assist with the exit process for workers required or choosing to leave the industry.
- Identify and contact possible cases that have left the workplace for access to the AS pathway.
- Evaluation of AS OHN Pilot.

Once the claims were lodged, this seemed to shift for the ACC representatives, some of whom were new to the project and unknown to the OHN project teams. They directed that the red items listed above be removed from the project as they were “out of scope”. The difficulty is that the OHNs have a duty of care to their patients and are professionally bound to adhere to a code of conduct which includes providing support after establishing a health provider relationship with the worker. In addition the OHNs agreed to supply services to our practice standards, and proving support to workers is an accepted standard.

## 2 Workers

### 2a. Ongoing support for worker health

There was a lack of understanding by workers about the risks of inhaling Respirable Crystalline Silica, and the Accelerated Silicosis disease process. The OHN was able to complete education about the risks and prevention and mitigation methods. However, carrying them out depends on workplace systems and support.

### 2b. Fear of knowing their health status and consequences of a positive diagnosis.

Accelerated Silicosis is a frightening disease, and many workers said they would rather not know whether or not they had AS. This was the basis for one of the workers declining to participate in the AS OHN Pilot. The OHN provided the information about AS and the diagnostic process so that the worker could make an informed decision about exercising their options. Two workers said that they were not intending to stay in the industry long term and declined to participate on that basis. The workers also expressed fear about losing their employment, or not having employment alternatives. There was a preference to just continue working. Perhaps more information from ACC up front about job alternatives and the support that is available for this kind of transition if it is required would help.

### 2c. Anxious wait for results

The feedback to workers about their test results was slow. This added to the anxiety for workers. It was unclear for the OHNs who the test results were being reported to. The OHNs were unable to receive that information from ACC.

### 2d. Needing time to process

Workers needed time to process what AS is and the possible effects of their exposures, the tests, the outcomes and the implications for themselves and their families. The stress indicators completed at the beginning indicated that one person needed psychological support and this was communicated to ACC. Often the rest of the workers needed time to process, and would require psychological support as part of their ACC claim going forward. The OHNs did not repeat the stress indicator test as this was out of scope, however during the follow up conversations, workers were reporting increased stress due to arranging appointments and waiting for results, and not receiving communications regarding their status. Ongoing support for workers is required.

### 2e. Health literacy

Low health literacy in general and specifically about workplace health, meant that people needed to hear a few times what a test involved, the testing process, what they would experience during and after testing, and what the implications could be for their health and work.

To ensure equal access to health care entitlements on ACC's AS pathway, the OHNs found that workers needed an individual and responsive plan of wrap-around care so that each person's needs were met.

The OHNs assisted by providing information and continuity to workers, workplaces, and testing providers on where to get scans or test, what to expect, how to access it, and that ACC would arrange payment.

## 2f. Reluctance to engage with ACC.

As health providers, OHNs are skilled in building an environment of trust and rapport with workers, building an initial relationship with the workers where they could talk about fears and concerns in a safe environment. These ranged from fear of loss of health to loss of employment. ACC's assumption was that case managers would be able to manage these. While that may be true, some workers expressed a reluctance to have these discussions with ACC.

## 2g. Time and organisation for tests.

There are several tests to complete, and they were at different locations. This meant 3-4 visits to testing providers to complete the testing, and setting up of appointment times. Workers who were young, and those had not had experience with health testing and providers before had difficulty with this. In 4 cases we provided Dr. Muthu's standing orders for blood, urine and HRCT to make it easier for workers to do the tests.

## 2g. Time off work for tests

s 9(2)(a)

The number of different appointments required means that this is significant unpaid time and creates a barrier: the GP (multiple visits), the blood and urine tests, HRCT and Chest X-ray, spirometry. Creating a one-stop service for workers would be helpful.

## 2i. Workers paying for GP visits.

This was the primary barrier to lodging a claim with the GP for the worker. Unless a claim is lodged, the GP visit is not covered by WorkSafe, and the whole charge may not be covered for the first and subsequent visits. Therefore, it was unclear to workers how much it would cost them. According to the AS Pathway, there are multiple points where the worker can see the GP, or the GP is involved in making decisions on the claim with ACC. The co-payment arrangement on this was not transparent to workers who do not have the discretionary funding for this in their budgets. This was one of the major reasons why all workers chose to lodge their claim via the Occupational Health Physician Dr. Muthu.

## 2j. Money for tests –blood and urine tests, HRCT, spirometry

When workers went for their tests, in many cases it was unclear for the testing providers how they would be paid. This occurred mostly in the Auckland area. One issue was the wording on the provider's system said the claim was "Held". Test providers did not know what this meant



and they were concerned that the test would not be paid for. This caused time delays and several visits to the provider and phone calls to ACC before it was resolved and testing could proceed. In one case the worker is still waiting (4 weeks now) for the ACC case manager to clarify this with the provider despite several telephone and email requests to address this from the OHN.

ACC45 #	Claim #	Cover Status	Injury Resolved	Injury Resolved From Date	Injury Resolved To Date
		Held			
Injury Status	Diagnostic Code	Diagnostic Code Description	Side	Part NHI Number	Date of Accident
Provisional	TN8.	Injury ?accidental, by other means	Not Applicable	s 9(2)(a)	28/02/2023
Provisional	H421.	Simple silicosis	Please Select		28/02/2023

Figure 24: Data from the project relating to claims with a 'Held' status.

Similar issues occurred for all tests- blood and urine tests, spirometry tests, and the HRCT tests. Some workers paid for their spirometry and chest x-rays, and they should be reimbursed for this by ACC.

## 2k. Increased life insurance cost

One worker stated that his life insurance premium was increased because he had seen his GP about the RCS exposure and investigation for AS. It would be helpful for ACC to provide guidelines for GPs as to what they should say to life insurance companies. If the worker has had an assessment which shows no disease, they should be able to convey that to the life insurance company.

## 2l. No ongoing surveillance

For the workers who were assessed and their claims were declined because their tests showed no active disease, there is no provision for ongoing health surveillance. They are still exposed to RCS in their work, and require ongoing surveillance. A national surveillance system would track the worker through time and through different workplaces.

## 3 Businesses/PCBUs

### 3a. Self-selection, voluntary participation

The businesses in the AS OHN Pilot participated on a voluntary basis in the AS OHN Pilot. This created a high-trust model and they demonstrated co-operation and facilitated the appointments for their workers with the OHN. The OHN advice for improving the workplace was valued. These businesses demonstrated motivation for ensuring that they were managing the risks properly. However, the majority of businesses approached by WorkSafe for this AS OHN Pilot declined to participate. For this surveillance work to be expanded so that all workers exposed to RCS can be assessed, mandatory participation is required. The prevalence of AS disease cannot be extrapolated to the remaining worker population exposed to RCS.

### 3b. RCS Accreditation creating false sense of security

There were businesses in the AS OHN Pilot that had completed the Respirable Crystalline Silica (RCS) Accreditation Programme provided by Impac and the New Zealand Engineered Stone Advisory Group (NZESAG). The changes guided by accreditation and implemented by the businesses were positive overall. However, some had let the accreditation lapse. The nature of RCS is that it must be controlled 100% of the time, all the way through the manufacturing process from procurement to disposal. There is no margin for error. All these elements were not in place despite accreditation being achieved. In addition, it was obvious that control systems had lapsed judging by the amount of visible dust seen by the OHNs and as evidenced by some of the behaviours that were observed during their visits. When visible dust levels indicate failing controls, the invisible RCS levels are also usually high, and need to be checked. RCS is invisible and can only be measured by specialist occupational hygiene exposure monitoring. The regular monitoring visits by occupational hygienists were infrequent or not at all. Therefore, there was underperformance of monitoring of controls which was of concern. In addition, the Respirable Crystalline Silica (RCS) Accreditation Programme only outlines health surveillance and testing requirements rather than providing guidance for PCBUs as to how occupational health professionals could support the accreditation scheme. The funding to develop the scheme came from ACC and was approximately s 9(2)(b)(ii) and the NZOHNA request to assist with the development, pro bono, was declined by IMPAC and the NZESAG. The barrier here is that accredited businesses have developed a false sense of security by passing a one-time accreditation.

Reports on the accreditation scheme have shown that there is low participation.

[\(Engineered stone bench top makers shun a safety scheme to stop workers inhaling silica deadly dust\)](#)

It would be useful to have information on how effective the accreditation programme is in reducing RCS levels for workers. Transparency around the accreditation process is also required: What is checked? What measurements are used? How often are PCBUs checked? How are the standards judged? How often are occupational hygienists required to test workplaces for accreditation to be renewed? How many PCBUs have let their accreditation lapse and why?

The OHNs provided advice to the participating businesses for reducing the exposure of RCS which included:

- Changes to laundry to onsite facilities for workers
- More frequent testing by Occupational Hygienists
- Isolating dry cutting from other workers using a barrier (short term)
- Expanding the water channel system to collect slurry and recycle water
- Checking that filter bags for slurry were disposed via specialist disposal
- PPE fit, use, and maintenance review

### 3c. PCBU knowledge of the health implications of RCS exposure.

The level of knowledge, understanding and ability to translate the knowledge into process improvements was lacking. PCBUs were receptive to 1:1 assistance to translate health protection requirements into action, but struggled when just presented with the information in written form. This could be due to time pressure for small businesses, lack of understanding of the material, lack of resources to make changes, lack of funding for health surveillance, or just not seeing it as important.

## 4 Occupational Health Nurses and Occupational Physicians

### 4a. Lack of funding and consultation model for OHN and OP experience and specialist services

The OHNs involved in the AS OHN Pilot were recruited because they had advanced knowledge about AS, and were senior and experienced practitioners. This proved to be advantageous because they were able to talk confidently to workers about RCS and AS, and handle the complexities of case management. The OHNs in the pilot also used their experience with workplace airborne diseases risk management practices to suggest process improvements to the PCBU. This included hygiene, laundering, structural changes to drains, isolating dust, PPE changes and more. Should this pilot expand into practice across New Zealand, it is recommended that OHNs be accredited and supported in that role. It would be an advantage to have accredited OHNs enabled to lodge the ACC 45 for workers. The NZOHNA is positioned to endorse the education and organise mentoring. It could be that any other OPs new to RCS and AS would benefit from accreditation as well.

We were fortunate to work with Dr. Muthu who has clinical experience and deep knowledge of AS disease. Dr. Muthu has kept up with and shared information with us from her international colleagues about advances in AS prevention, assessment and treatment. However, due to the lack of a consultation model, advances in AS and feedback information from practitioners on the front line circulates within professional circles. There is no mechanism to feed information through to MOH, ACC or WorkSafe. An example is the use of Chest Xray in AS assessment. HRCT has higher accuracy in identifying early disease than Chest Xray. It is concerning that in the AS OHN Pilot, GPs tended to send workers for Chest Xray rather than HRCT, and then communicated to workers that their "normal" Chest Xray meant no active AS disease. New information from Australia indicates that the Chest Xray should be discontinued in favour of the HRCT. There is currently no mechanism to discuss evolving information and the implications for assessment and care with government agencies, health care providers, and industry.

### 4b. No provision for short term and long term care after the AS assessment

During the last OHN follow up, it was learned that one worker had had their claim accepted and been referred for a pulmonary specialist assessment and DLCO test (progressed past Step E). He was told in June that his appointment would be in August. That is a three month wait, and five months from his initial assessment. There is no provision for the OHN to continue to support the worker in terms of organising psychological support and reviewing his work exposures in the waiting period. The OHN would appreciate having a conversation with ACC in

order to ensure the worker is supported, either by handing over care to another health professional, or ensuring that the ACC case manager is positioned to organise and provide support.

Another consideration is the long term care for workers who have not had a claim accepted yet, but who continue to be exposed to RCS in their work. There is no health monitoring or surveillance set up for the 20 workers that took part in the AS OHN Pilot. This needs to continue for their lifetime. OHNs and OPs are well aware of the importance of following workers long term. This needs to be discussed in the AS Pilot debrief session.

In Victoria, Australia, The Alfred runs a clinic for workers exposed to RCS. They bring workers from around Victoria to a central clinic at The Alfred, where the worker completes all their tests in one visit. The worker sees the qualified Occupational Physician and a Respiratory Specialist. The worker gets their results, is counselled, and their results are placed in a registry. They return at set periods for health surveillance. The registry is available for reviewing test findings and trends. They see over 300 workers per year in two clinics per week. This is fully funded by WorkSafe.

Something to factor in to this Victorian model is that it occurs in a different enforcement context from New Zealand. WorkSafe Victoria actively monitors workplaces that expose their workers to RCS risks.

We recommend that the Victorian model be considered and adapted for the New Zealand context. We see a collaborative operation which includes the health and safety practitioner and occupational hygienist as central resources for businesses to ensure there are no lapses in best practice risk management. Then the workers would be able to be tested centrally, or in regional centres through the OHN and OP network, and cases forwarded to the MDM on the AS Pathway. This would ensure equal regional access to health care for workers exposed to RCS and any other airborne hazard.

#### 4c. Multi-organ and long-term effects of AS

AS affects organs and systems in addition to the respiratory system. It can cause or potentiate a number of diseases, including cancer. Expertise in these diseases is also needed in the care of workers with AS. The AS Pathway includes specialists at the MDM step, however it is not clear how workers are supported after that.

## 5 ACC

### 5a. The ACC AS Pathway complexity

The OHNs have observed that the AS Pathway is complex. It requires many steps for workers to access it and progress along it. Each step has barriers to be navigated. The barriers are inconsistent and therefore cannot be anticipated beforehand because of the range of worker capability and health literacy, the different providers and their protocols, different geographic locations with differing health care resources, and differences between ACC case managers. For example, the OHN placed a call to ACC and was given case manager details to assist with a

payment issue with test providers. The issue was explained and the case manager said they would follow it up. Despite repeated emails by the OHN and worker, three weeks later nothing had changed. The worker's colleague suggested contacting his case manager, which he did, and the matter was resolved in hours. He was finally able to complete his tests. Without the support of the OHN to encourage him to follow it through, he would have abandoned the AS Pathway.

The OHNs observed that wrap-around support was needed for workers to progress along the AS Pathway.

### 5b. ACC management of the AS Pathway

While ACC is positioned to run the AS Pathway, the communication restrictions in place for OHNs and OPs meant that workers are left behind on the pathway. The inability to provide transparency on where workers are in the pathway makes supporting the workers to a satisfactory outcome difficult. After providing the administration to lodge the initial ACC 45, the role that the OHNs played included reviewing with workers the importance of testing, talking with them about their fears and reservations, talking to their GPs where the GPs didn't know how to proceed, talking to testing providers when they didn't understand the tests or funding, encouraging workers and providers to contact ACC to resolve their claim barriers, and contacting ACC directly to try to provide information to discuss the claim hold ups. The OHN navigation role is required to bridge between workers, PCBUs, health care providers, industry bodies and ACC.

### 5c. Lack of consultation process with occupational health specialists

The consultation with OHNs and OPs is ad hoc. It is largely based on the occupational health associations (NZOHNA and ANZSOM) asking to be invited into ACC consultation, and then the experience, knowledge and information collected by OHNs and OPs is not used within ACC to inform policy and programme development. This change has occurred mostly since 2015 when the changes to WorkSafe occurred. As an example, the multi-disciplinary involvement demonstrated for the Patient/People Handling Guidelines development was supported by ACC. Having the collaboration of end health care users, patients, stakeholders, unions, equipment suppliers, district health boards, researchers, and patient handling specialists within NZ and from around the world was an effective strategy which delivered a long-standing product. ACC and crown entities need to establish a process to collaborate with occupational health specialists, or risk more of the system failures that led to this AS OHN Pilot.

Consultation is especially important when there is pressure to ban silica from engineered stone products. The manufacturers are currently replacing silica with other substances that can be equally dangerous to health. To ensure new potentially hazardous substances are assessed properly, expertise in occupational health is required.

[\(Building industry and unions call for urgent action...\)](#)

#### 5d. ACC reliance on 0800 number

Workers were unable to get through the ACC 0800 number. The OHNs assisted the workers in several instances to get through to the gradual process team to discuss problems with accessing testing, or to discuss their claim. One worker gave up after hours on hold. The OHNs were not permitted to discuss claims with the ACC case managers, and did not receive any information about the claims despite signed consents from the workers for this. In addition, Dr. Muthu was unable to get information despite being the lodging physician. Therefore, we do not know what information was sent to the worker, but putting the case manager's name on the letter, along with the extension number for call would have helped this communication considerably.

#### 5f. Test providers lacked understanding of testing requirements and ACC funding for tests

We were told by ACC to tell workers that: *“ACC will ensure that the correct purchase orders are raised so clients do not get billed. ACC will authorise and pay for the cost of diagnostic tests, assessments and specialist referrals required to investigate the claim to reach a cover decision (regardless of whether the claim is accepted or declined).”* In some cases this did not happen, despite several calls to ACC.

The providers, in some cases, did not understand the actual tests they were to do. Workers reported that urine testing was done using a dipstick rather than full urinalysis, and spirometry was completed by the registered nurse at the GP's office. These spirometry tests should be the highest quality available, with correct procedure and calibration.

### 6 WorkSafe

#### 6a. Lack of engagement with AS OHN Pilot practitioners

WorkSafe provided introductions to the OHNs which facilitated the OHN's approach to the businesses. This was helpful. We would have appreciated an invitation to the upcoming health surveillance workshop they are hosting on June 26, 2023. NZOHNA will be represented, but the OHNs on this pilot were specifically excluded

#### 6b. Lack of leadership

WorkSafe was silent throughout this pilot. It was evident at the businesses that the involvement and enforcement by WorkSafe was inadequate. WorkSafe relies on businesses voluntarily putting preventive action in place. To reduce exposures to harmful substances, a greater focus on enforcement of prevention strategies is required.

#### 6c. Caution extrapolating the AS OHN Pilot findings wider

The nature of the recruitment of the participating businesses meant that they all had received information about RCS control and risk management. This was a self-selected voluntary group that is not representative of the larger community of Engineered Stone fabricators. Therefore, the incidence of AS among this group cannot be extrapolated to the larger population of exposed workers.

## 7 General Practitioners

### 7a: Payment required from workers

The co-payment for ACC claims is a barrier for workers to visit their GP. There are payments when GPs receive and handle results as well as seeing the worker in person. This can be addressed by funding Occupational Health providers to manage most of the AS Pathway, and this reduces the barrier for workers who may not be able to afford payments.

### 7b: Understanding the AS Pathway and where to find the information

It was clear that the GP's understanding of the AS Pathway and where to find the information was lacking. GPs did not know of the AS Pathway, how to raise an AS claim, which tests to select for the worker, where to get the tests, how to read the results, and where to send the information. We did not have visibility of the documentation sent from ACC to the GP, nor did we have the resources to follow up with each GP to document their experience. That should be done by ACC on completion of the pilot.

The GPs are not fully or well equipped to handle the steps in the AS Pathway due to time constraints, low knowledge about occupational medicine and in particular AS, and no time to read the resources available to them.

There seemed to be more than one GP health portal that GPs used. It could be that some portals contain better information than others. Where there was a care pathway, this seemed to help GPs follow a process, but not to ask more in depth questions and connect the worker's existing health with the risks of RSC exposure. For example, smoking history, immunologic history, and presence of other diseases such as kidney disease.

### 7c: Lack of time for GPs to understand AS due to heavy workloads

The workers found it difficult to get appointments with their GP to order and review the results. Several GPs verbalised that they did not have time to research AS and what tests to order, or the significance of the results. GPs do not visit workplaces to provide advice on health protection measures to workers and businesses.

## 8 Ministry of Health Manatū Hauora

### 8a. Occupational health not seen as part of public or community health

Medical Officers of Health operate under the Director-General of Health and are required to provide oversight over public health issues, including substances under the Hazardous Substances and New Organisms Act 1996. Respirable Crystalline Silicosis is listed as one of those substances. If Occupational Health providers were able to work in with Public Health, this would vastly improve the oversight of hazardous substances.

[\(National Public Health Service\)](#)

## 8b. Inadequate Funding for AS OHN Project

OHNs taking part in the AS OHN Pilot are committed to protecting the health of workers. As such, we have contributed over 1500 voluntary unpaid hours since 2019:

- Developing the AS Pathway as part of the Dust Diseases Taskforce in 2019-20
- Raising the AS issue to the Minister of Health in 2020
- Creating a collaborative group of professionals to raise concerns with the government entities.  
[\(Group for Action on Accelerated Silicosis Prevention – submission\)](#)
- Scoping the AS OHN Project over a year
- Delivering the administration and report for the project.

The operational OHNs were paid for their time to collect the AS history and conduct the exposure assessments, and for follow up. They have also contributed extra unpaid time to support workers.

There has been tremendous effort put in by the OHNs and OPs over the last 4 years. It was extremely disappointing that only a tiny project with \$20k of public funding eventuated. Only 20 workers could be assessed where we could have completed hundreds of assessments, with adequate funding. As professionals representing real people, this fell well short of what these workers deserved.

OHNs are mostly contractors, and this is forgotten by government entities who are all paid to attend meetings. Occupational health professionals as a whole do need to be valued for their expertise, and consideration should be given to remuneration for time in meetings and for giving their specialist advice in the future.

## 8c. After the AS OHN Pilot - Lack of clarity on what happens next

The OHNs and OPs involved in the AS OHN Pilot have no knowledge of what will happen after this report is submitted, and any plans to address the issues raised. We are also concerned that participating workers and businesses have no idea of what will happen once the AS OHN Pilot is completed. The ACC, WorkSafe and MOH focus was all on getting workers into the AS Pathway. A close out, debriefing meeting would be valuable, and also appreciated.

## 8d. No collaborative culture with occupational health providers

The recently constructed restorative practices project within healthcare incorporates a multidisciplinary group, in order to safeguard the voice of patients within the healthcare system, and put right any wrongs they have suffered as part of their healthcare experience. The same collaborative approach needs to be applied to Occupational Health surveillance to build a collaboration between MOH and occupational health providers. Perhaps this restorative model can be used for a pilot close-out meeting.



## Way Forward

In 2020, NZOHNA National Executive David Browning documented his concerns from an Occupational Health perspective about the current state of preventing, monitoring, assessing, diagnosing, treating, and evaluating workers exposed to RCS in multiple settings, not solely Engineered Stone fabrication. David had volunteered 18 months of his time on the Dust Diseases Taskforce to guide the development of the AS Pathway, and his work was fully supported by Heid Börner as co-President of the NZOHNA at that time. Heidi Börner secured a meeting with Min Andrew Little, who was the Minister of Health at that time. This was done with assistance from s 9(2)(a) from the Extractives Industry, and strong support from the unions E Tū and CTU. The document is available here for review:

<http://orangeumbrella.co/wp-content/uploads/2023/06/2020-09-04-NZOHNA-Position-Statement-for-the-Accelerated-Silicosis-Dust-Diseases-Pathway.pdf>

It is worth noting that the concerns raised at that time are the same concerns raised now after running the AS OHN Pilot.

A summary of our concerns from the 2020 document to Min Andrew Little:

- No OHN at the Workplace unless contracted by PCBU
- Some PCBU only visited by Worksafe inspectors, no hygienist or other health related professional – No Health Eyes on the workplace and processes
- Incidental exposure to families – who will identify this?
- Psychological aspects to be handled by GP – what about entire workplace support?
- Workers may not present at GP for initial screening – do they have GPs? How do they pay?
- Workers may not download and complete the form
- Workers may need support with completing the form
- WorkSafe 'dumbing down' the occupational history to only current workplace when the expectation is that this worker group likely has had exposures from multiple workplaces
- ACC case managers expected to complete rest of form – how are they getting this information?
- Access to previous OHN records – who will source/vet these, access?
- PCBUs may have fears (done something wrong, be mis-informed, not understand the issues, no-blame system in place, not wanting their employees notified to health system). How will GPs or ACC manage this?
- Understanding the process, hazards, risk and controls when English is a second language

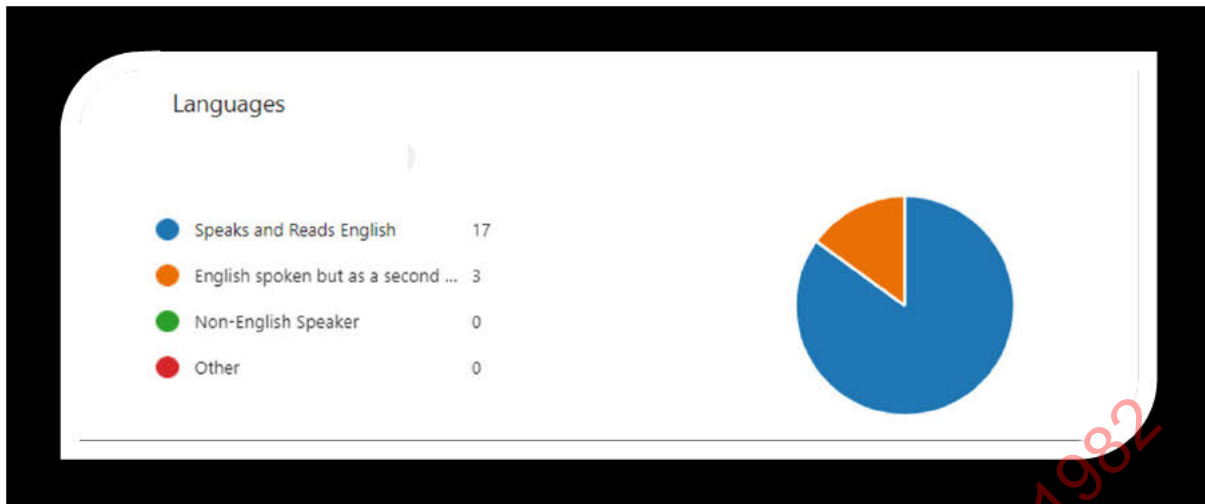


Figure 25: Pilot study workers - Languages spoken

- Employers who are fearful of WorkSafe, take inaction due to risk of prosecution or misunderstanding the intent of project. How will GPs or ACC manage this?
- Baseline spirometry for those who have no OHN contracted, who do not progress to DLCO spiro/CT scan in the DHB
- Care for employees with latent disease who pass screening
- Catching previous employees, where are they?
- Differing levels of care/OHN support due to financial inequity (32 employee business/PCBU vs 3 person business)
- GP unable to fit check respirators – only if employee remembers to bring these to GP visit. Do GPs know how to do this?

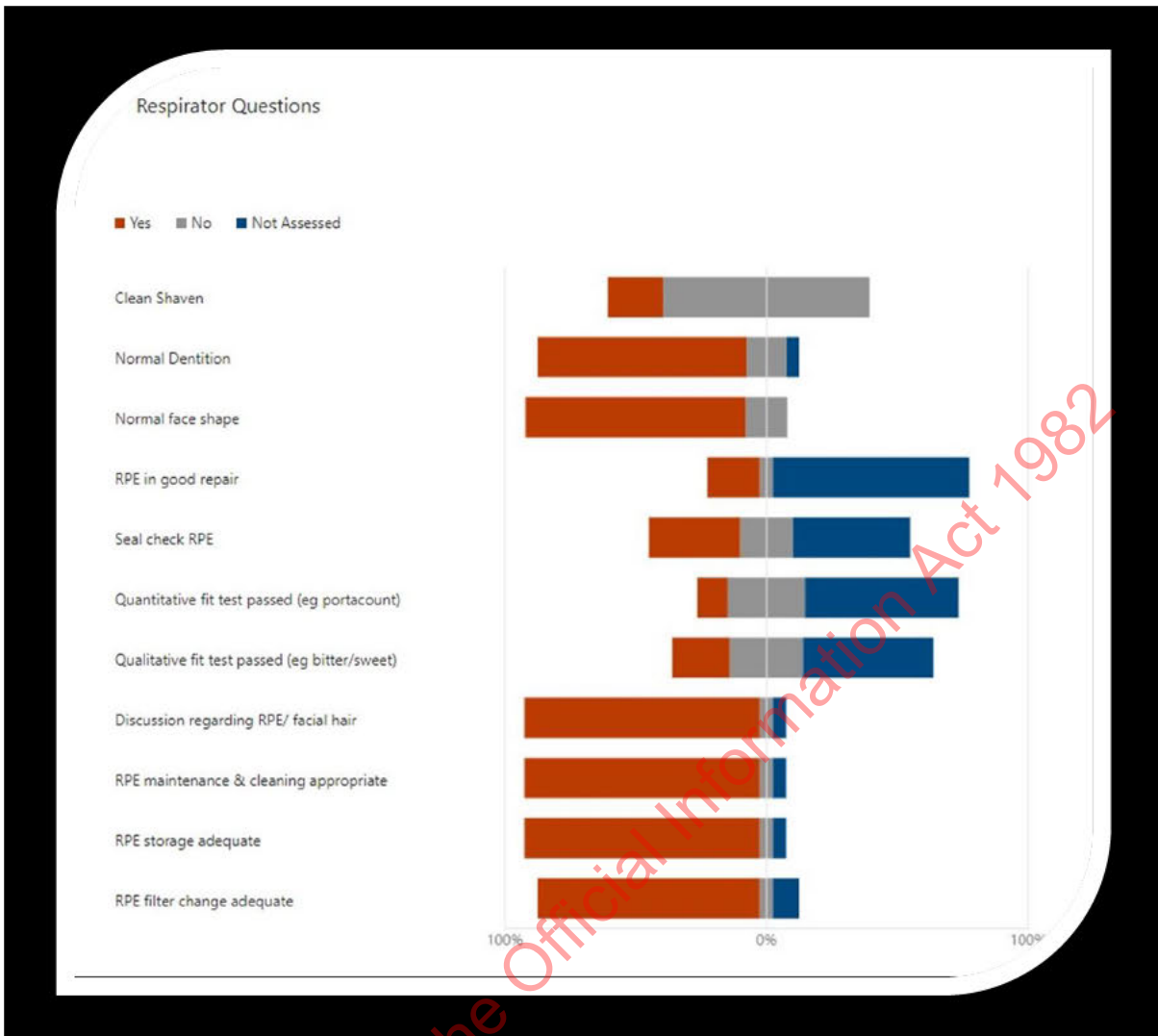


Figure 26: Respirator Assessments that were able to be undertaken during the pilot, and the outcome of that assessment. We are certain that most of these factors could only be addressed through one to one contact at the workplace in a trusting, non-threatening environment.

- RPE – storage, use, cleaning, replacing filters, correct filters
- No 'Health Professional' eyes on controls and mitigations in place
- RPE fit testing (formal) – who will encourage this? Follow through?

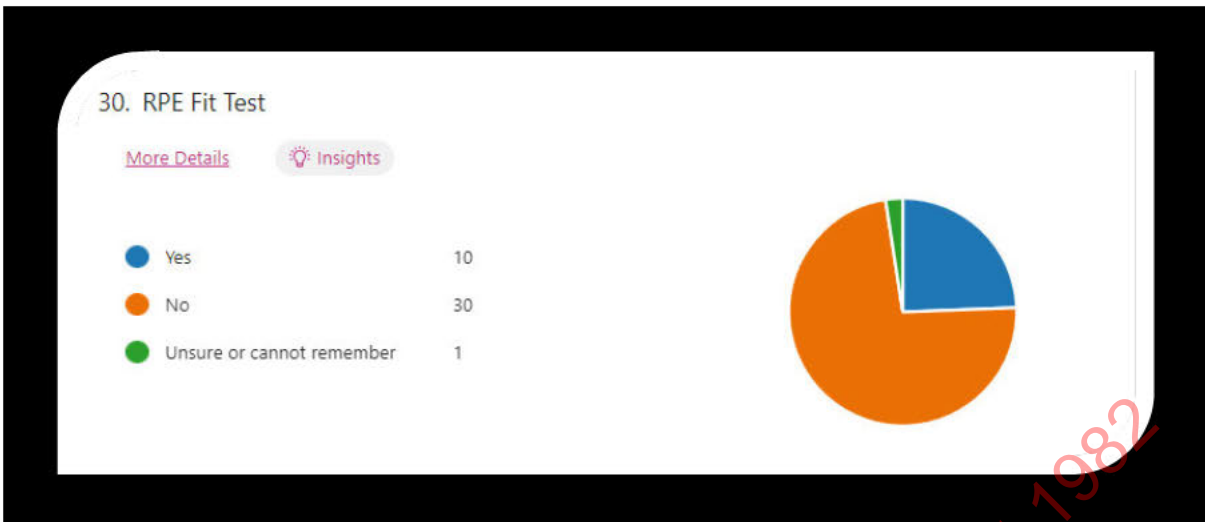


Figure 27: Workers who underwent Respiratory Fit Testing at their current or previous workplaces where engineered stone processing was undertaken

- Stress/anxiety at home (new job, unwell family member, waiting for progress through pathway, anxiety about symptoms) – will GP check this?



Figure 28: The Perceived Stress Scale (PSS) responses from assessed workers at the beginning of the pilot. Follow up at the end of the 3 month period was out of scope for this project so this is handed over to the GPs and ACC case managers as part of the assessment pathway.

- Laundry – at work or at home, cleaning vehicles, boots, jackets, raincoats (pockets fill with slurry that dries during wet cutting and exposes family) – will GP check this?
- Office staff, visitors, cleaners, managers – how well are they isolated from dust and slurry – will GPs check this?
- Cleaning of LEV (local exhaust ventilation) and vacuum cleaners, cleaning dry slurry end of day, end of week– will GP check this?
- Bags of dried inhalable silica waste – to landfill, contractors, storage and spillage – will GP check this?
- Accumulation of dust on ceiling spaces, stairways, cupboards, assessing for and dealing with this – will GP check this?
- Practices of dry cutting on building sites to fix poorly measured fittings– will GP check this?
- Ongoing specialised advice after pathway
- Quality of spirometry, before during and after pathway/case finding is over
- Where can PCBUs source an OHN list – HASANZ doesn't have many OHNs listed on it so far, and WorkSafe want somewhere to direct the PCBUs to
- Media will pick this up soon if handled poorly – employee complaints to media, political, public health and industry risks of negative press attention
- Increased workload on GPs with COVID-19 testing
- Complexity of Occupational Health vs Public Health in New Zealand
- Sharing information amongst private providers – Occ Hygiene, PCBUs, Occ Physicians, Public Health and previously contracted OHNs
- Data Storage, Custody of and Security
- Lack of quality administrative support during pathway implementation

It is also worth noting that the framework suggested by NZOHNA in 2020 to address AS and occupational health management in general remains pertinent.

[\(Group for Action on Accelerated Silicosis Prevention, 2020\).](#)

There has been no discernable progress in 3 years.

The proposals for a national occupational health surveillance service were discussed in 2020, and the **s 9(2)(b)(ii)**

WorkSafe funded NZOHNA to enhance the training for registered nurses to become OHNs. This training is now underway and will equip the occupational profession with an enthusiastic new generation of thinkers, with ideals of action and ethics. They would be well-placed to guard worker and community/public health for the future.

### From AS OHN Pilot to?

The AS OHN Pilot has shown the benefits for workers by providing the specialist support from OHNs and OPs. For finding and assessing the up to 1000 exposed workers, the project needs to be expanded. We have no indication from ACC, WorkSafe or Ministry of Health Manatū

Hauora what their intentions are to use the learning from this pilot and create an expanded programme.

We have stated throughout this report the need for a national occupational health surveillance strategy and system. Developing that would be a logical next step.

## National Occupational Health Surveillance System

As a result of this project and the wider legislative framework, and risk profile for New Zealand workers, communities, and businesses, we recommend a national occupational surveillance system. This requires collaborative and multi-disciplinary consultation.

Suggested outline of a national occupational health surveillance system:

Step 1. Registry of hazardous materials.

Step 2. Registry of PCBUs that use these hazardous materials.

Step 3. Mandatory health and safety professional to provide ongoing expertise to those workplaces to ensure preventive systems and processes are in place and effective.

Step 4. Referrals from multi-disciplinary professionals into occupational health services. This would come mostly from the health and safety professionals, but could also come from Public Health, WorkSafe inspectors, occupational hygienists, unions, worker referral, or industry groups (e.g., like the Electricity Supply Industry enforces their own SM-EI). This is to guarantee effective health monitoring and health surveillance as required when controls are in place for risk management. The OHN and OP review both the risks of the work on worker health, and any health issues the worker may have that can impact safe work performance (fitness to work).

Step 5. OHNs and OPs work together to assess workers, maintain their history, initiate claims as needed, and communicate with the GP.

For AS, the ACC claim can be lodged and the testing can be organised in the same visit, whilst right there in the workplace. This is easier for workers than the current AS Pathway in that it negates the need for the worker to leave the workplace multiple times to organise these through their GP (if they have one). We need to be mindful of the stress this places on both the workplace and the worker when they need to take time off to attend appointments and undergo testing. ACC can provide purchase orders for OHNs to send to test providers when appointments are made so that payment is assured.

Step 6. The ACC claim is reviewed by ACC and the next steps are applied as needed. For AS, this would mean the Pulmonary Specialist assessment and DLCO test. This can be facilitated by the OHN.

Step 7. All test results are reviewed by the Multi-Disciplinary Meeting relevant for that substance.

Step 8. The claim is managed by ACC in collaboration with OHNs, Occupational Physicians and GPs as needed.

Step 9. Registers are kept and data is collected in a national surveillance system for different parties to enter their data. This data is then used to evaluate risk and detect trends.

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## Summary

The AS OHN Pilot successfully demonstrated the value of engaging OHNs with an OP to support workers exposed to RCS to lodge an ACC claim and to have health assessments through the AS Pathway.

100% of the workers seen in the Pilot had a claim lodged with ACC and underwent valuable 1:1 training and education on how to mitigate the risks of RCS from both a personal and organisational point of view.

Disease assessment is just one part of managing the risks of airborne hazard exposures. There needs to be a much greater emphasis on the prevention of exposure to airborne hazards.

We urgently need a national occupational health surveillance service and strategy that is parallel to the health system, to preserve the human right of safe and healthy work.

This needs to be at a minimum:

- Mandatory
- Prevention-focused
- Multi-disciplinary – occupational health providers (OHNs and OPs), general practitioners, crown agencies, workers, unions, communities, workplaces, occupational hygienists, occupational therapists, health and safety professionals, occupational safety providers and specialties such as psychologists
- Working closely with Public Health
- Independent of political change and influence
- A holder of exposure data
- A holder of interventions that are measured for effectiveness
- Work in with WorkSafe, the Environmental Protection Authority, Councils and other authorities for enforcement and decisions about banning new or existing substances
- A culture of caring and community

The nature of the recruitment of the participating businesses into the AS OHN Pilot meant that they all had received information about RCS control and risk management. This was a self-selected voluntary group that is not representative of the larger community of Engineered Stone fabricators. Therefore, the incidence of AS among this group cannot be extrapolated to the larger group.



## Closing and Thanks

In closing we would like to thank the team of David Browning (OHN), Annette Stubbersfield (OHN), Wendy Spence (OHN) and Dr. Alexandra Muthu (OHP) for their valuable work and insights on this project.

Many thanks to the workers and workplace that participated in the AS OHN Project.

There are many OHNs whose support since 2019 has been critical, and they stayed the course even through the rigors of COVID-19.

We would also like to thank the unions, the workers, the workplaces, occupational health researchers, NZOHNA and ANZSOM for their unwavering advocacy over the last four years.

A sincere thanks to the journalists who have told the heartbreaking stories of workers with AS, which has been so helpful in creating awareness for workers, PCBUs, and accountability for the crown agencies.

As OHNs, we know how well collaboration with multiple disciplines works to support and enhance the health and safety of New Zealand workers and their families. Some examples are:

- New Zealand Manual Handling Code of Practice
- New Zealand Health and Safety system for Schools
- New Zealand Patient Handling Guidelines and reviews
- NZ Electricity Engineers' Association Safety Climate Project (2010-2018)

A strengths-based collaborative effort is the way to maintain the health and safety of New Zealanders at work and through work. Implementing a national occupational health strategy and surveillance service together is the best way forward.

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Accelerated Silicosis OHN Pilot Project Managers

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## Resources

1. [Accelerated silicosis assessment pathway](#)- Te Whatu Ora Health New Zealand
2. [Accelerated Silicosis FAQ](#)- The Royal Australasian College of Physicians

## Patient Resources

1. [Controlling silica dust in the workplace](#)- WorkSafe Mahi Haumaru Aotearoa
2. [Silicosis](#)- Health Navigator New Zealand
3. [Accelerated silicosis](#)- ACC Cover

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