THUNDER BAY & DISTRICT INJURED WORKERS SUPPORT GROUP

(Tuesday Morning Information and Advocacy Sessions – 27 Oct 2026) Provided by Kevin Hedges (kevinhedges@ohcow.on.ca)

Occupational Health Clinics for Ontario Workers Inc. | Centres de santé des travailleurs (ses) de l'Ontario Inc.

1) Introduction to **Workplace Health Without Borders(WHWB)** (International).
2) "**Engineered / Artificial Stone**"

Advocacy provided by WHWB

I. Previous webinars, WHWB US, and WHWB International part A (how big is the problem) and part B (controlling exposure to silica in engineered stone countertops)
II. Most recent webinar delivered by WHWB International **ENGINEERED STONE - an Unacceptable Hazard**
III. What is the latest – Australia, California, UK and now "**including Ontario Canada**".



Kitchen refit worker, 32, dies of lung disease after calling for deadly stone ban



Professor Deborah Glass – Monash University Australia





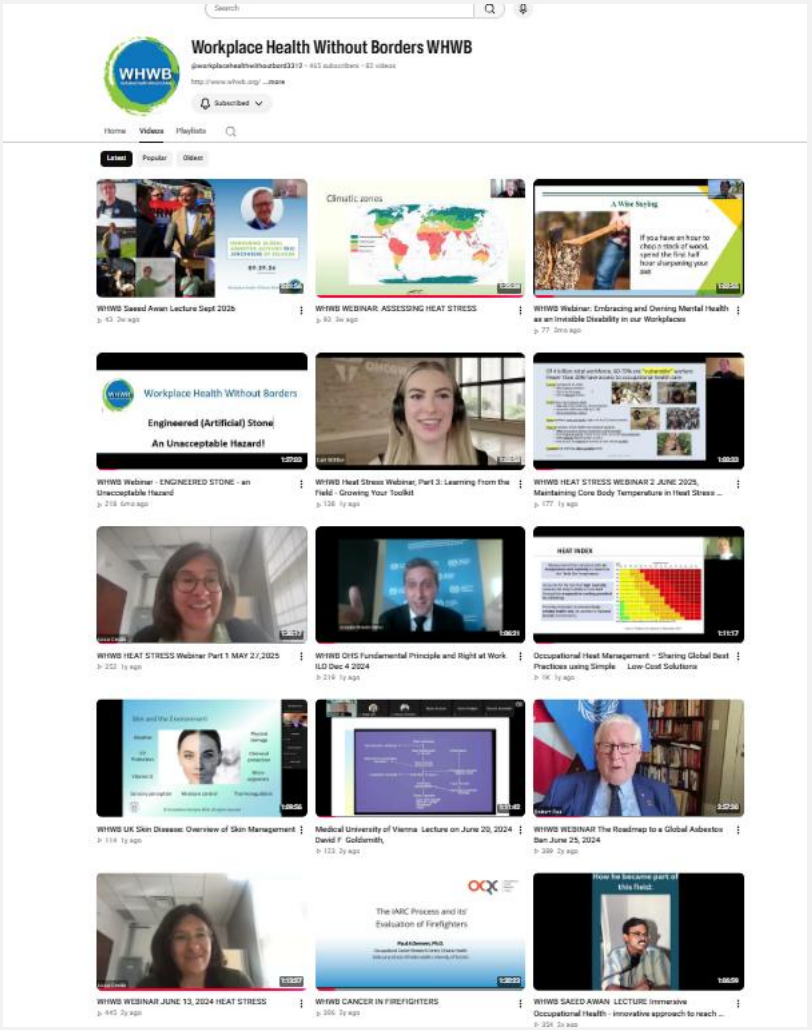
Malik Al-Khalil , spoke to The i Paper from hospital in 2024 wanting to warn other stonemasons of the dangers of silica dust (Photo: Tom

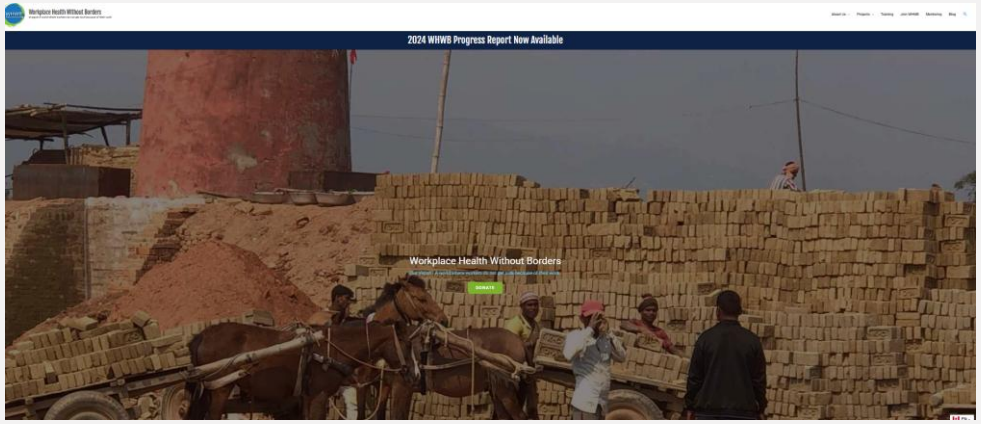
Think Globally. Act Locally. Every Lesson Learned Elsewhere Is a Life We May Save Here.



1) Introduction to **Workplace Health Without Borders** (International).





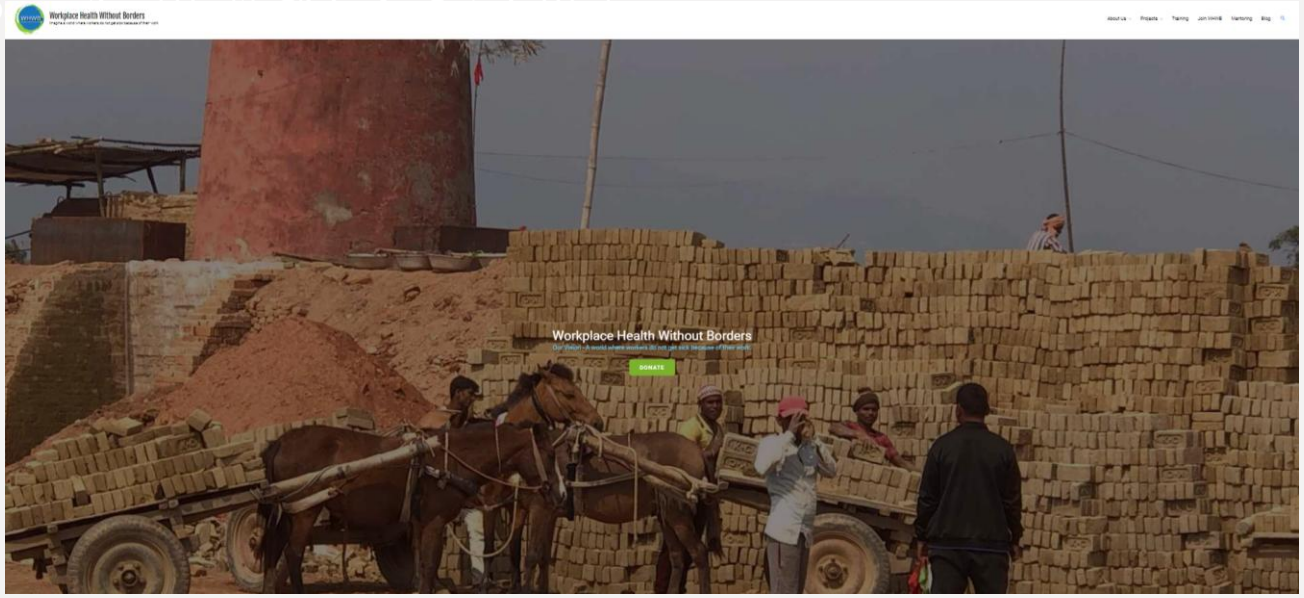


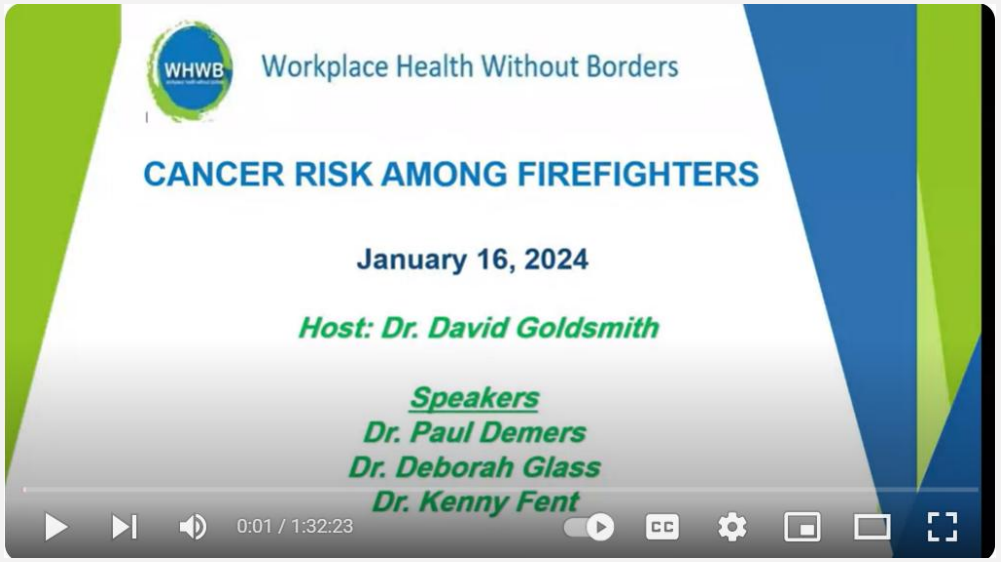
Occupational Health Clinics for Ontario Workers Inc. https://whwb.org/about-whwb/
Prevention Through Intervention

https://www.youtube.com/@workplacehealthwithoutbord3312/videos

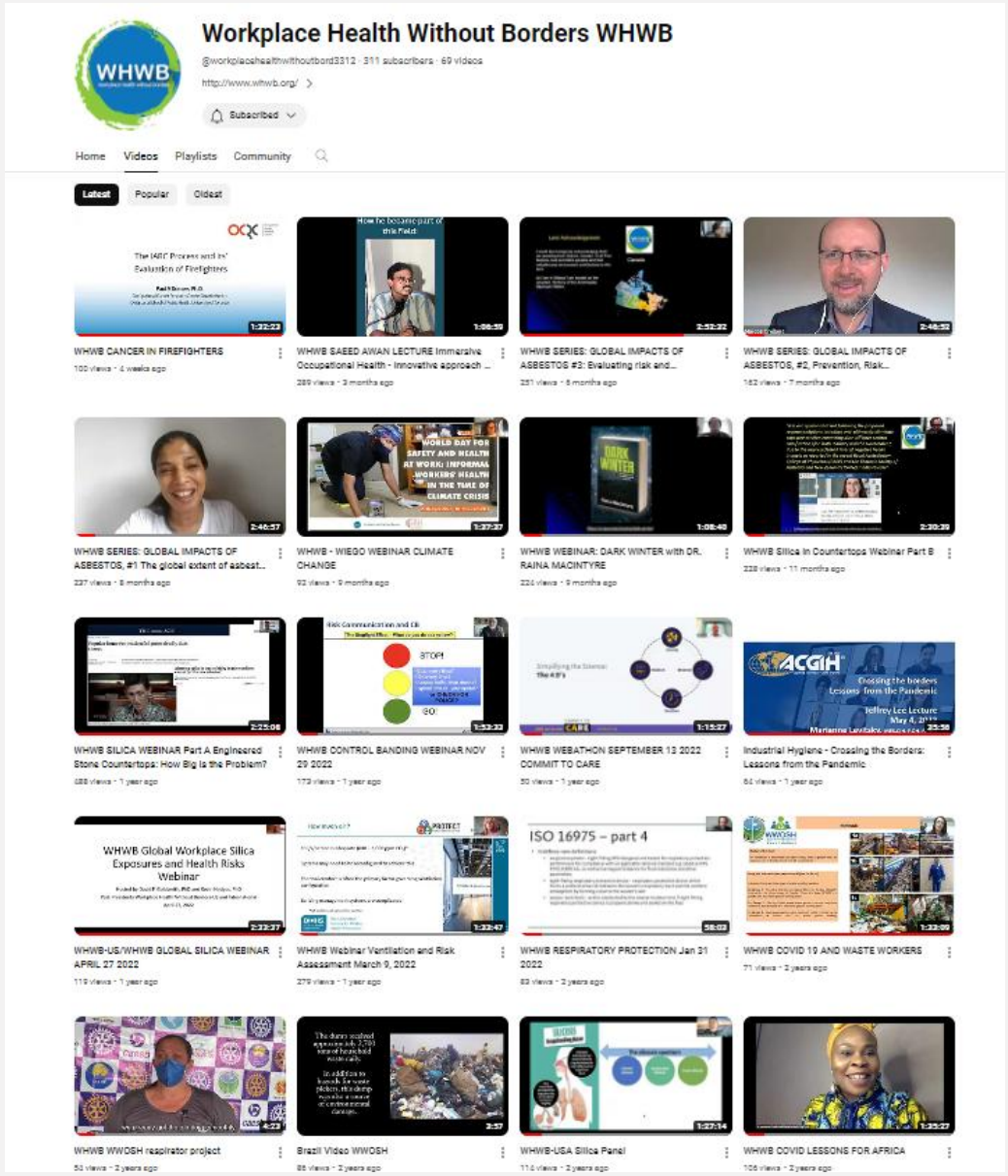
Occupational Health Clinics for Ontario Workers Inc.

Centres de santé des travailleurs (ses) de l'Ontario Inc.





https://www.youtube.com/watch?v=eExSoROWN6s



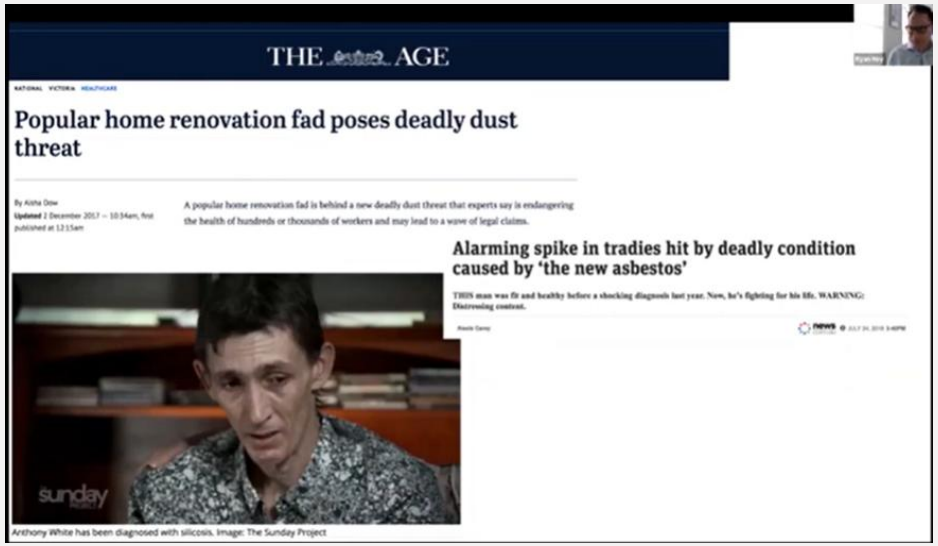
https://www.youtube.com/channel/UCj5PLvW65Lr0feLYGVLBnmQ/videos

Engineered / Artificial Stone

Occupational Health Clinics for Ontario Workers Inc. | Centres de santé des travailleurs (ses) de l'Ontario Inc.

The **epidemic of silicosis** affecting California employees in the engineered stone industry, often vulnerable worker populations



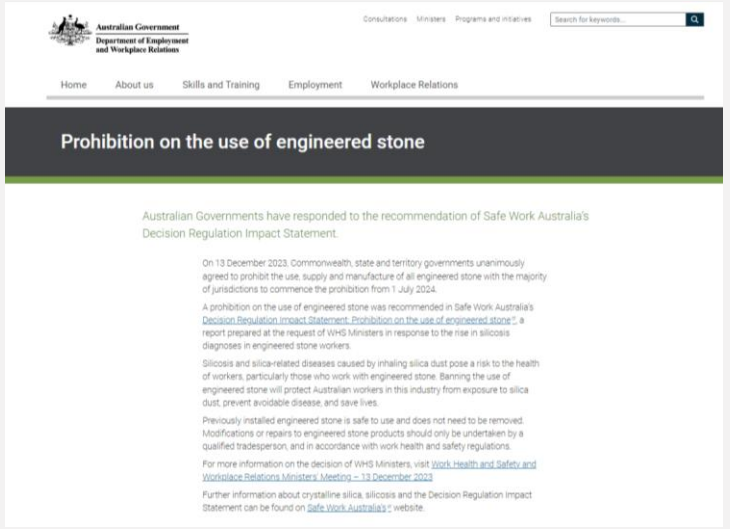

THE AGE

Popular home renovation fad poses deadly dust threat

A popular home renovation fad is behind a new deadly dust threat that experts say is endangering the health of hundreds or thousands of workers and may lead to a wave of legal claims.

Alarming spike in tradies hit by deadly condition caused by 'the new asbestos'

Anthony White has been diagnosed with silicosis. Image: The Sunday Project


Australian Government
Department of Employment and Workplace Relations

Home | About us | Skills and Training | Employment | Workplace Relations

Prohibition on the use of engineered stone

Australian Governments have responded to the recommendation of Safe Work Australia's Decision Regulation Impact Statement.

On 13 December 2023, Commonwealth, state and territory governments unanimously agreed to prohibit the use, supply and manufacture of all engineered stone with the majority of jurisdictions to commence the prohibition from 1 July 2024.

A prohibition on the use of engineered stone was recommended in Safe Work Australia's Decision Regulation Impact Statement: Prohibition on the use of engineered stone, a report prepared at the request of WHS Ministers in response to the rise in silicosis diagnoses in engineered stone workers.

Silicosis and silica-related diseases caused by inhaling silica dust pose a risk to the health of workers, particularly those who work with engineered stone. Banning the use of engineered stone will protect Australian workers in this industry from exposure to silica dust, prevent avoidable disease, and save lives.

Previously installed engineered stone is safe to use and does not need to be removed. Modifications or repairs to engineered stone products should only be undertaken by a qualified tradesperson, and in accordance with work health and safety regulations.

For more information on the decision of WHS Ministers, visit Work Health and Safety and Workplace Relations Ministers' Meeting – 13 December 2023

Further information about crystalline silica, silicosis and the Decision Regulation Impact Statement can be found on Safe Work Australia's website.

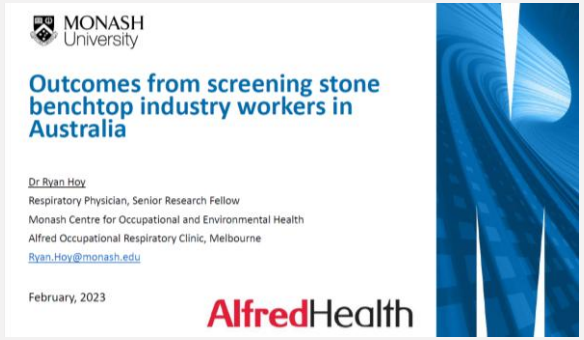
Australia

Dr. Robert Harrison



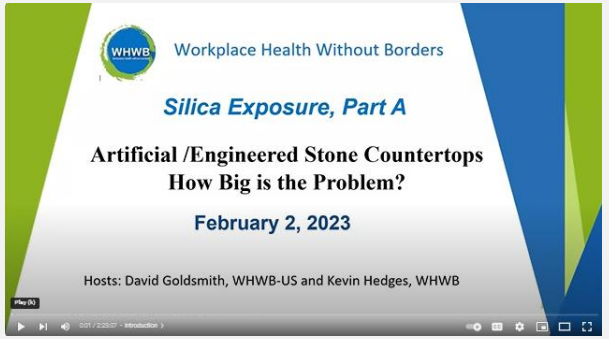
Robert Harrison MD, MPH
Senior Attending Physician, UC San Francisco Occupational Health Services

Silicosis in a box / the tip of the iceberg!

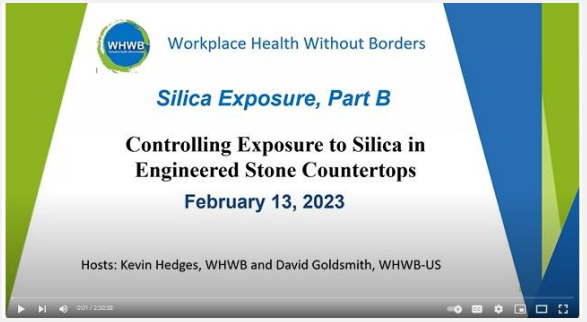


Dr Ryan Hoy

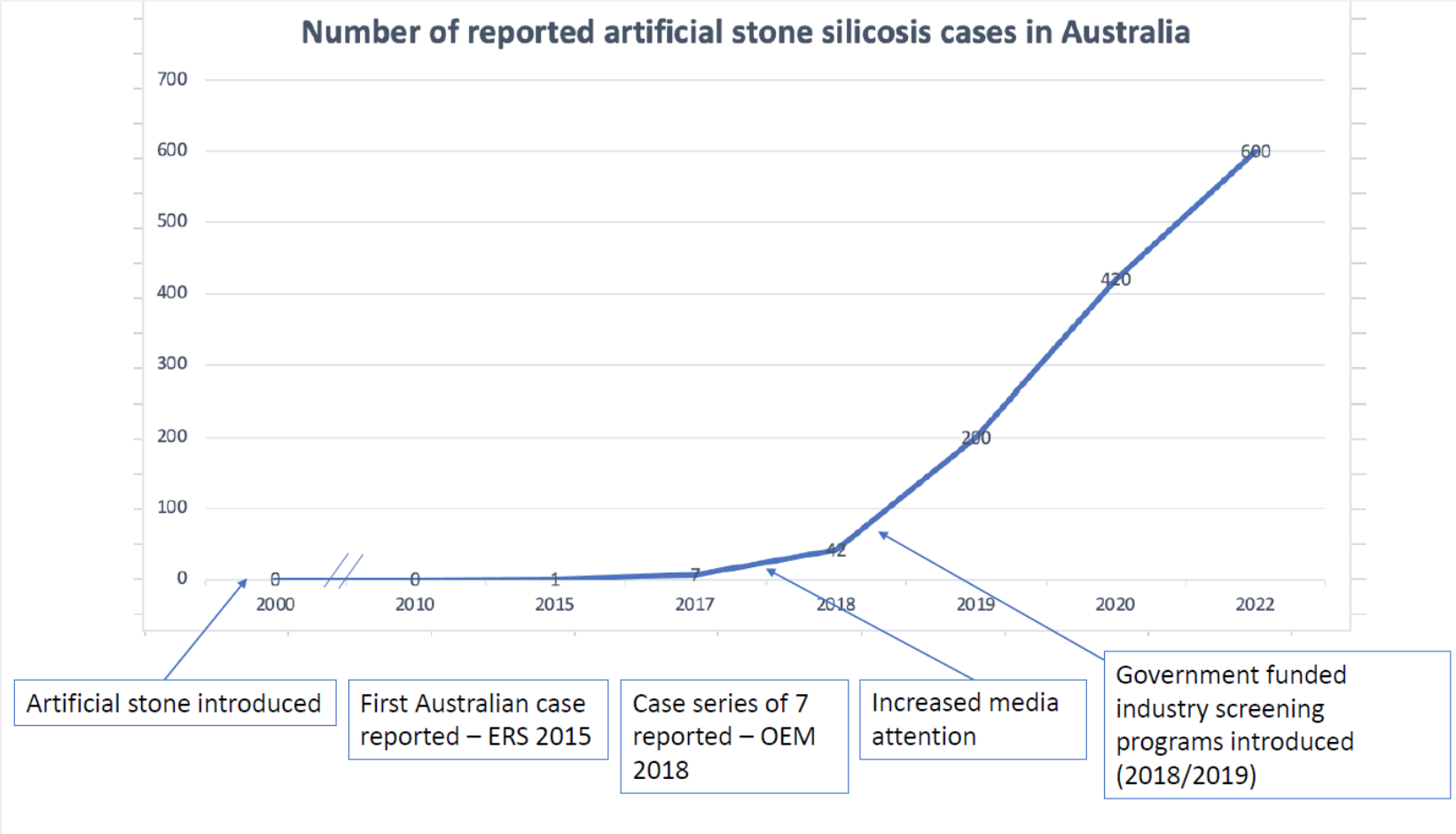
Respiratory Physician, Senior Research Fellow
Monash Centre for Occupational and Environmental Health
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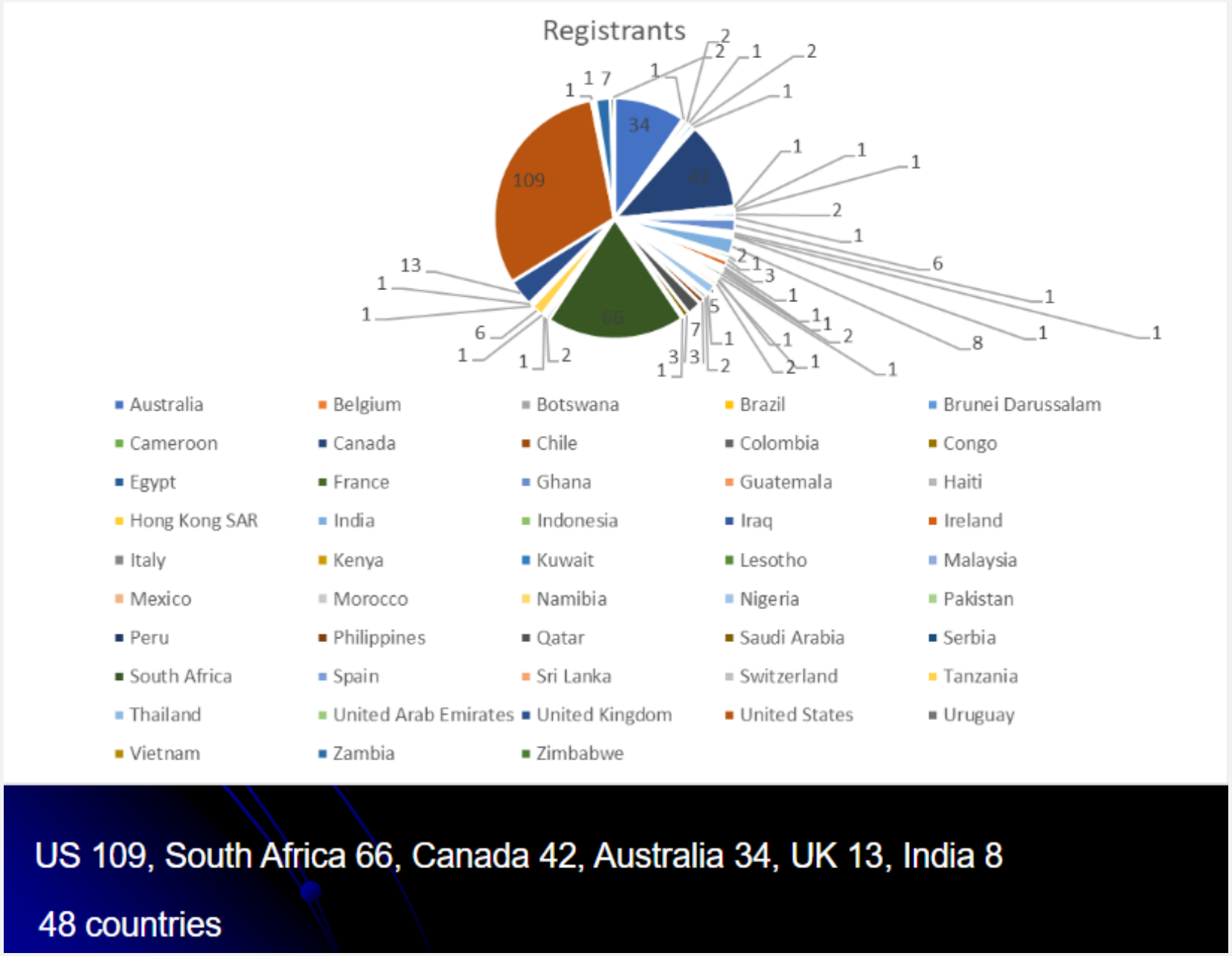
https://www.youtube.com/watch?v=eExSoROWN6s



https://www.youtube.com/watch?v=ZWeaweT4Vaw&t=3s



Webinar part B Feb 13, 2023



US 109, South Africa 66, Canada 42, Australia 34, UK 13, India 8

48 countries

~ 272 international attendees

What about Africa?

Results from SADC Countries: A Mixed Landscape of Silica Dust Management



- Our interactions with representative companies using Artificial Engineered Stone (AES) in selected SADC countries reveal a varied approach to silica dust management.
- While some large enterprises demonstrate formal controls, smaller and non-manufacturing entities often lack comprehensive measures, highlighting significant gaps in worker protection.

From a presentation by Tamara Mbizi 2025 SHAW Conference

SADC Country	Zimbabwe		Zambia		South Africa	
Location	Harare	Harare	Lusaka	Lusaka	Durban	Durban
Type of business	Large Enterprise	SME	Large Enterprise	SME	Large Enterprise	SME
Type of operation	Manufacturing	Non-manufacturing-Fitting	Non-Manufacturing-Distribution	Non-Manufacturing-Fitting	Non-manufacturing-Distribution	Non-manufacturing-Fitting
Type of work	Slab making, Cutting, polishing	Cutting ,Fitting Polishing	Storage and dispatching	cutting, fitting and polishing	Storage and dispatching	cutting, fitting and polishing
Staff compliment	Could not disclose	17	4	13	176	22
HSE Practitioner	Could not disclose	No	Yes Fire marshal and First aider in place	No	Yes First aid Fire marshal	No
Risk Assessment	Could not disclose	Informal	Formal documentation	Informal	Formal documentation	Informal
Engineering control	Could not disclose	Mixed cutting, both wet and dry cutting	Enclosed warehouse Natural ventilation Wet cutting	Natural ventilation	Enclosed warehouse Natural and extractor ventilation,Wet cutting	Natural ventilation
Admin Controls	Could not disclose	Nil	Safety talks Training on PPE Silica dust training to customers (local fitters)	Coincidental job rotations	SOP in place for managing silica dust Silica dust management training	Nil
Medical surveillance	Could not disclose	Nil	Silicosis medicals are conducted	Nil	Periodic medicals conducted	Nil
PPE/C Use	Work-suits Surgical masks	Mixed, surgical and cloth masks	Face coverings using cloth and Respirators	Surgical masks	N95 Respirators in use	Mixed, dust and surgical masks

Surgical masks !

From a presentation by **Tamara Mbizi** 2025 SHAW Conference

- Zimbabwe
- Zambia
- South Africa

(from Tamara Mbzizi presentation – see previous slide)

"A surgical mask will **not provide personal protection** against respirable silica dust."



See the recent Workplace Health Without Borders International Webinar

WHWB Webinar - ENGINEERED STONE - an Unacceptable Hazard



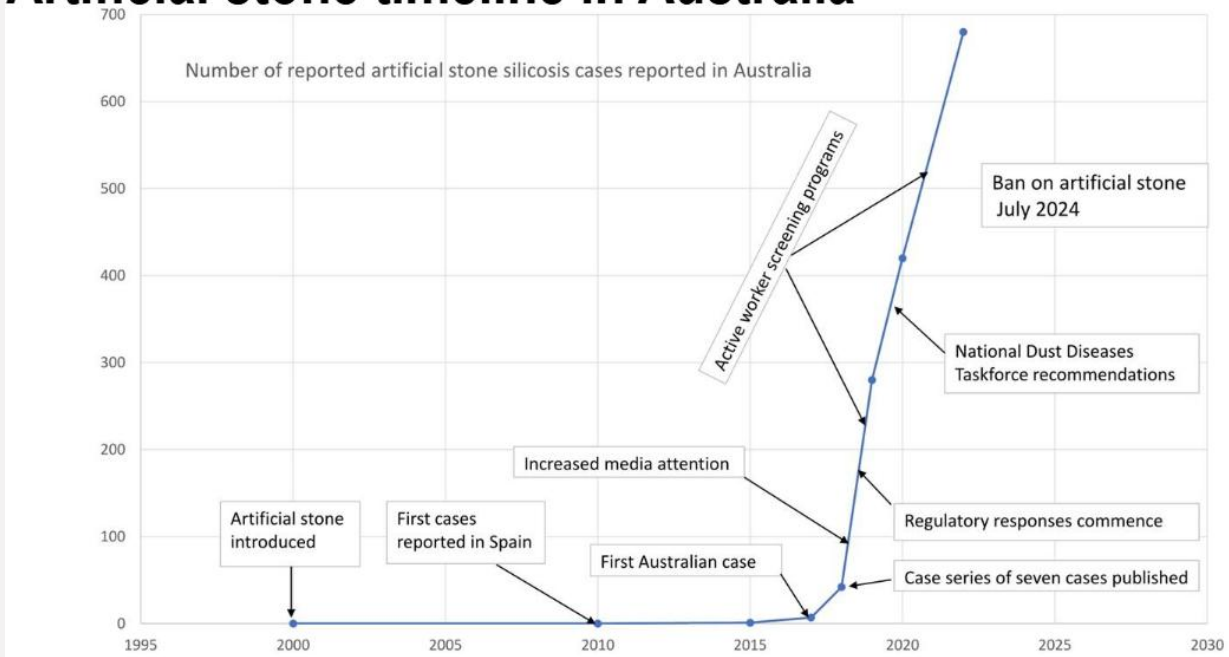
WHWB Webinar - ENGINEERED STONE - an Unacceptable Hazard

218 views Apr 8, 2026

Workers in many countries are getting seriously ill from working with engineered (artificial) stone. In response, Australia banned engineered stone countertops with more than 1% crystalline silica. This WHWB webinar features **Professor Deborah Glass from Monash University in Australia** providing evidence linking job exposure patterns with increased risk of respiratory disease among workers exposed to respirable crystalline silica (RCS) from engineered stone. This research provided an important evidence base for Australia's ban. An introductory talk is given by Dr. David Michaels, former head of US OSHA. Dr. Glass' slides are available here: https://app.box.com/s/4164tcfvvybsvo6...

Australia

Artificial stone timeline in Australia



Ann Work Expo Health. 2025 Jan 8;69(1):1-4

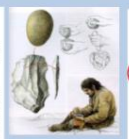
Complicated silicosis in an Australian worker after cutting engineered stone products: an embarrassing first for Australia

Deborah H Yates[1], Anthony R Johnston[2], and Anthony Frankel[3]

[1] Thoracic Medicine, St Vincent's Hospital,[2] Respiratory Medicine, Liverpool Hospital [3] Respiratory Medicine, Bankstown Hospital, Sydney, NSW, Australia

Introduction

- Silicosis is the oldest known occupational lung disease, first being described by the Greeks
- Definition: a form of pneumoconiosis (pneumo=lung konios = dust (Gk) or dust disease due to inhalation of crystalline silica dust.
- Also known as miners' phthisis, potter's rot, grinders' asthma
- Debatably, also the longest word in the English language: *"pneumonoultramicroscopicsilicovolcanoconiosis"*.





Mr VN

- 54 year old man
- Presented to Bankstown Hospital in 2011 with breathlessness, cough and haemoptysis
- Vietnamese Refugee
- Came to Australia in 1981
- Past medical history: Asthma and atopy, cholecystectomy.
- Medications: None
- Allergies: Peanuts, egg yolk
- Family Hx
  - –Unknown; had lost contact with family
- Social History: lived with wife, 3 daughters and 2 dogs
  - –Ex-smoker (approx 30 pack years), minimal alcohol
  - –Not travelled back to Vietnam since emigration

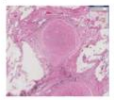
Occupational history:

- Worked a stone cutter, grinder and finisher (usually Caesarstone, occasionally marble/granite/sandstone), wears the 'normal' mask
- Only worked in this capacity since came to Australia

History (continued)

- Investigations revealed bilateral upper lobe masses; suspicion of malignancy in view of smoking history
- Open lung biopsy revealed silicosis with progressive massive fibrosis; no evidence of malignancy or tuberculosis





- Referred for consideration of lung transplantation
- Subsequently developed bilateral pneumothoraces requiring chest tube drainage
- Trans-oesophageal echo showed moderate pulmonary hypertension
- Now listed for transplant

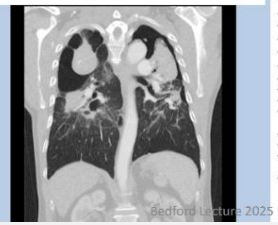
Silicosis from engineered stone products

- Quartz conglomerate (engineered stone)
- High silica content (85%); first used in late 1980s
- Used on kitchen tops, countertops, floors, wall coverings
- Higher silica content than traditional stone
- Incidence of disease up to 50% of workers, RR approx. 15
- Cases occurring in young people
- Entirely preventable disease
  - First described in Spain; cases also from Italy, Brazil
  - Large number of cases described from LTx unit in Israel
  - Characteristically, small workplaces with little or no occupational safety procedures
  - No surveillance of workers
  - Likely to represent the "tip of the iceberg"
  - This is the first case described in Australia but others are likely.
- Clinicians should be aware of the hazards of silica exposure even in a first world country, and that new products may also contain silica.

- Silicon – the most abundant element on the earth after oxygen
- Silicon dioxide (SiO_2) the major constituent of earth's minerals
- May be "free" or combined with other elements
- 3 main crystalline forms: quartz, tridymite and cristobalite
- All forms of silica are potentially toxic if inhaled
- Traditional industries carrying risk of silicosis: mining, excavation, constuction, stone working.

Aim:

- To describe the first case of complicated silicosis from Australia caused by inhalation of silica dust during the cutting and grinding of engineered stone products



2015

European Respiratory Journal Sep 2015, 46 (suppl 59) PA1144

Anecdotal reports from patients



- Very dusty workplaces
- Minimal dust control measures in use, including respiratory protective equipment
- "Clean" products with compressed air
- Little awareness of the presence of silica or associated risk
- No education about risk being different from natural stone.

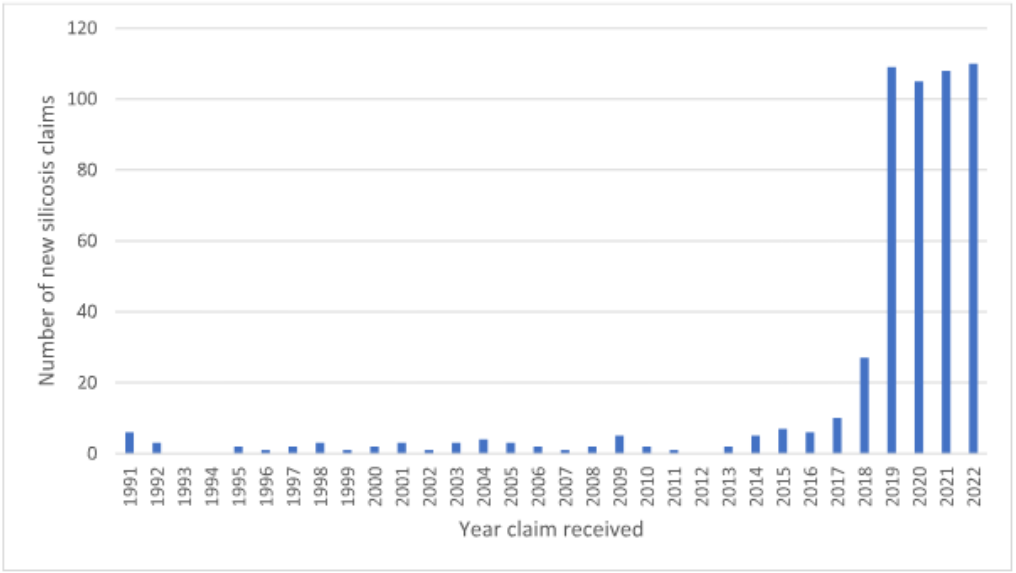


real red flag.
um talking to patients

MONASH University

A recent paper by Hoy R, 2025, The Rapid Rise of Silicosis in Victoria, Australia Associated With Artificial Stone Countertop Industry Work is the latest in many papers about this issue

- **Silicosis compensation claims in Victoria increased 27-fold** between the previous period and 2015-2022.
- Almost all registry cases were linked to the stone countertop industry, and 95% had worked with artificial (engineered) stone.
- The paper highlights the importance of active screening programs in identifying disease in engineered-stone workers.



Number of workers' compensation silicosis claims per year between 1991 and 2022 in Victoria, Australia.

This study is the first to describe in detail the long-term epidemiological trends of silicosis in Australia.

Cases reported in the study were still likely to be a substantial **under estimation of the true number occurring**. Younger many immigrant workers are exposed to very fine respirable dust generated from working with engineered stone which contains more than 90% very fine particle of quartz (crystalline silica).

Reconstituted silica bound together with a polymer glue makes it even more hazardous.

California

Even though the media attention to this issue is well known in Australia where it is now banned, and California - refer to “Silicosis among Workers Fabricating Engineered Stone ("Quartz") Countertops in California, 2019-2026”



NEJM Evid. 2026 Sep;5(9):EVIDpha2600187. doi: 10.1056/EVIDpha2600187. Epub 2026 Aug 12.

Silicosis among Workers Fabricating Engineered Stone ("Quartz") Countertops in California, 2019–2026

Amy Heinzerling [1], Jennifer Flattery [1], Kristin J Cummings [1], Robert J Harrison [1], Jane C Fazio [2], Sheiphali A Gandhi [3], Alya Khan [1], David Michaels [4]

Affiliations + expand

PMID: 42584953 DOI: 10.1056/EVIDpha2600187

From January 2019 through June 2026, the California Department of Public Health identified **592 cases of silicosis among workers fabricating crystalline silica-containing engineered stone countertops.** Of those, **65 underwent lung transplantation, and 31 died.**

Although surveillance findings have prompted regulatory and legislative changes in California, workers continue to be exposed to hazardous levels of respirable crystalline silica.

Protecting workers from further exposure will require a **multifaceted approach**, including **clinicians' identifying and reporting of cases to public health authorities**, **improved surveillance** by local and state jurisdictions, and **policy changes.**

What California is proposing

In May 2026, the California Occupational Safety and Health Standards Board voted to begin emergency rulemaking aimed at **prohibiting** the **fabrication and installation of artificial (engineered) stone products containing more than 1% crystalline silica**.

In September and October 2026, Cal/OSHA released draft regulations that would prohibit:

- Manufacture,
- Fabrication, and
- Installation

of engineered stone containing **>1% crystalline silica by weight**. The proposal remains in the regulatory process and is not yet in force.

Standards Board Advances Efforts to Protect Workers from Silicosis | California Department of Industrial Relations

United Kingdom

Artificial stone silicosis: a UK case series

Thorax. 2024 Sep 18;79(10):979-981. doi: 10.1136/thorax-2024-221715.

Artificial stone silicosis: a UK case series

Johanna Feary [1 2], Anand Devaraj [3 4], Matthew Burton [5], Felix Chua [6], Robina K Coker [3 7], Arnab Datta [8], Richard J Hewitt [6], Maria Kokosi [6], Vaslis Kouranos [6], Carl Jonathan Reynolds [3 7], Clare L Ross [7], Veronica Smith [9], Katie Ward [3 7], Melissa Wickremasinghe [3 7], Joanna Szram [3 2]

Affiliations + expand

PMID: 39107113 DOI: 10.1136/thorax-2024-221715

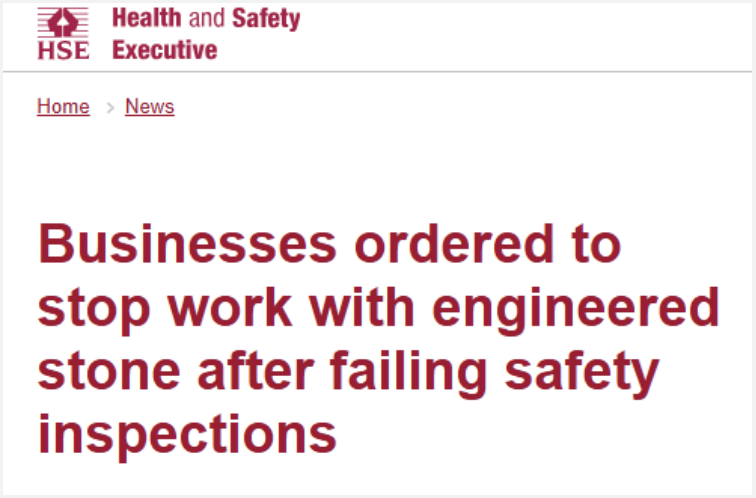
HSE's research found that dry fabrication can produce silica exposures 5 to 10 times higher than equivalent wet-cutting methods.

The **first eight UK cases** - all men; median age was 34 years (range 27-56) and median stone dust exposure was 12.5 years (range 4-40) but in 4 cases was 4-8 years. One is deceased; two were referred for lung transplant assessment. All cases were dry cutting and polishing AS worktops with inadequate safety measures. Clinical features of silicosis can closely mimic sarcoidosis.

UK cases are likely to increase, with urgent action needed to identify cases and enforce regulations.

HSE's research found that dry fabrication can produce silica exposures 5 to 10 times higher than equivalent wet-cutting methods.

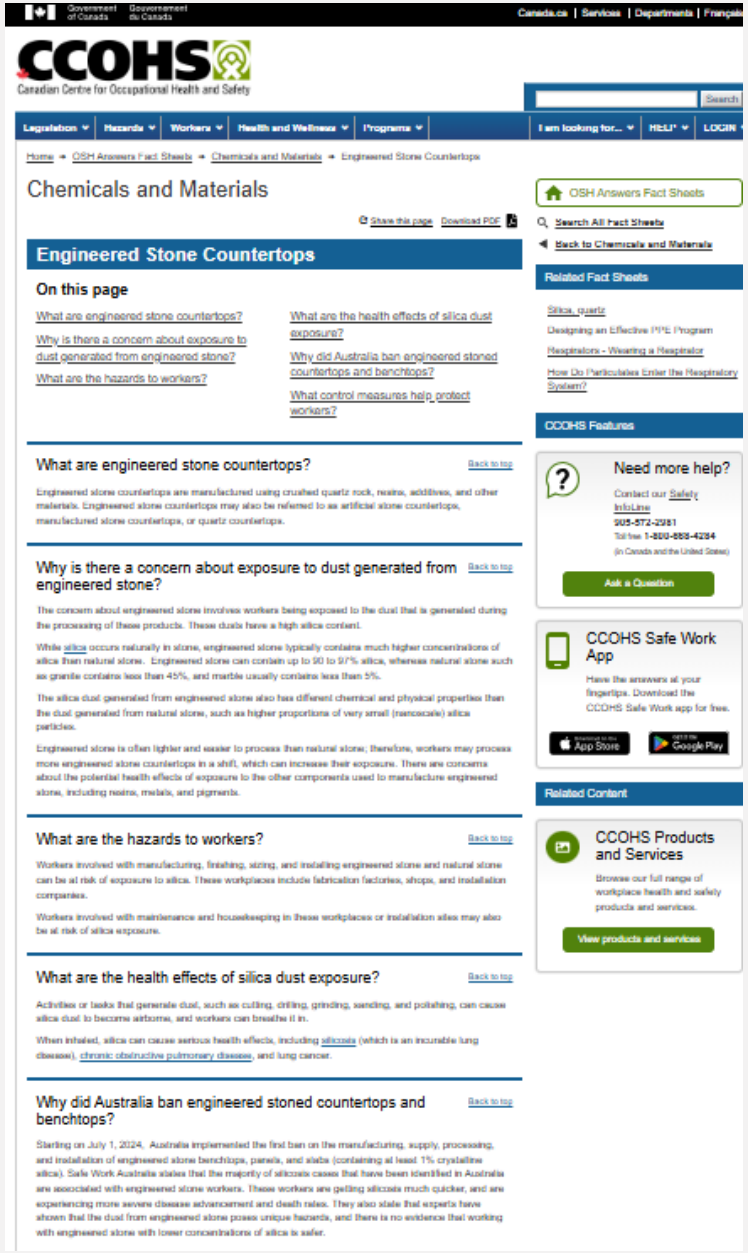
Publication of new guidance from HSE made it clear that dry cutting of engineered stone is unacceptable, and the regulator plans to conduct more than **1,000 visits** at which enforcement action to be taken against those failing to meet the required standards.



25th June 2026 CampaignPress release

- HSE serves first Prohibition Notices as part of nationwide health and safety inspection campaign
- Enforcement action taken to protect workers from deadly silica dust
- Four companies ordered to stop work after visits from HSE inspectors
- It comes after guidance issued telling industry to stop dry-cutting engineered stone

Canada



CCOHS
Canadian Centre for Occupational Health and Safety

Chemicals and Materials

Engineered Stone Countertops

On this page

- What are engineered stone countertops?
- Why is there a concern about exposure to dust generated from engineered stone?
- What are the hazards to workers?
- What are the health effects of silica dust exposure?
- Why did Australia ban engineered stoned countertops and benchtops?
- What control measures help protect workers?

What are engineered stone countertops?

Engineered stone countertops are manufactured using crushed quartz rock, resins, additives, and other materials. Engineered stone countertops may also be referred to as artificial stone countertops, manufactured stone countertops, or quartz countertops.

Why is there a concern about exposure to dust generated from engineered stone?

The concern about engineered stone involves workers being exposed to the dust that is generated during the processing of these products. These dusts have a high silica content.

While silica occurs naturally in stone, engineered stone typically contains much higher concentrations of silica than natural stone. Engineered stone can contain up to 90 to 97% silica, whereas natural stone such as granite contains less than 45%, and marble usually contains less than 5%.

The silica dust generated from engineered stone also has different chemical and physical properties than the dust generated from natural stone, such as higher proportions of very small (nanoscale) silica particles.

Engineered stone is often lighter and easier to process than natural stone; therefore, workers may process more engineered stone countertops in a shift, which can increase their exposure. There are concerns about the potential health effects of exposure to the other components used to manufacture engineered stone, including resins, metals, and pigments.

What are the hazards to workers?

Workers involved with manufacturing, finishing, sizing, and installing engineered stone and natural stone can be at risk of exposure to silica. These workplaces include fabrication factories, shops, and installation companies.

Workers involved with maintenance and housekeeping in these workplaces or installation sites may also be at risk of silica exposure.

What are the health effects of silica dust exposure?

Activities or tasks that generate dust, such as cutting, drilling, grinding, sanding, and polishing, can cause silica dust to become airborne, and workers can breathe it in.

When inhaled, silica can cause serious health effects, including silicosis (which is an incurable lung disease), chronic obstructive pulmonary disease, and lung cancer.

Why did Australia ban engineered stoned countertops and benchtops?

Starting on July 1, 2024, Australia implemented the first ban on the manufacturing, supply, processing, and installation of engineered stone benchtops, panels, and slabs (containing at least 1% crystalline silica). Safe Work Australia states that the majority of silicosis cases that have been identified in Australia are associated with engineered stone workers. These workers are getting silicosis much quicker, and are experiencing more severe disease advancement and death rates. They also state that experts have shown that the dust from engineered stone poses unique hazards, and there is no evidence that working with engineered stone with lower concentrations of silica is safer.

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- Silica, quartz
- Designing an Effective PPE Program
- Respirators - Wearing a Respirator
- How Do Particulates Enter the Respiratory System?

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Toll free 1-800-668-4284
(in Canada and the United States)

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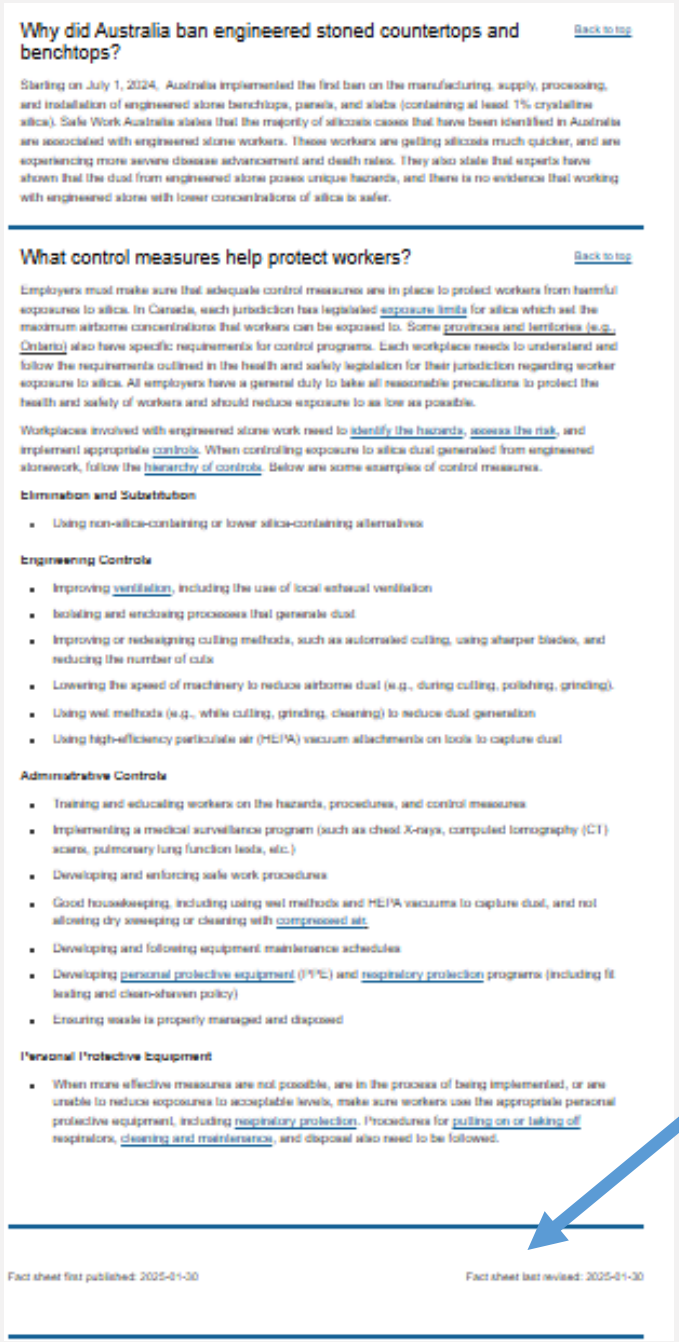
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Why did Australia ban engineered stoned countertops and benchtops?

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Starting on July 1, 2024, Australia implemented the first ban on the manufacturing, supply, processing, and installation of engineered stone benchtops, panels, and slabs (containing at least 1% crystalline silica). Safe Work Australia states that the majority of silicosis cases that have been identified in Australia are associated with engineered stone workers. These workers are getting silicosis much quicker, and are experiencing more severe disease advancement and death rates. They also state that experts have shown that the dust from engineered stone poses unique hazards, and there is no evidence that working with engineered stone with lower concentrations of silica is safer.

What control measures help protect workers?

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Employers must make sure that adequate control measures are in place to protect workers from harmful exposures to silica. In Canada, each jurisdiction has legislated exposure limits for silica which set the maximum airborne concentrations that workers can be exposed to. Some provinces and territories (e.g., Ontario) also have specific requirements for control programs. Each workplace needs to understand and follow the requirements outlined in the health and safety legislation for their jurisdiction regarding worker exposure to silica. All employers have a general duty to take all reasonable precautions to protect the health and safety of workers and should reduce exposure to as low as possible.

Workplaces involved with engineered stone work need to identify the hazards, assess the risk, and implement appropriate controls. When controlling exposure to silica dust generated from engineered stonework, follow the hierarchy of controls. Below are some examples of control measures.

Elimination and Substitution

- Using non-silica-containing or lower silica-containing alternatives

Engineering Controls

- Improving ventilation, including the use of local exhaust ventilation
- Isolating and enclosing processes that generate dust
- Improving or redesigning cutting methods, such as automated cutting, using sharper blades, and reducing the number of cuts
- Lowering the speed of machinery to reduce airborne dust (e.g., during cutting, polishing, grinding)
- Using wet methods (e.g., while cutting, grinding, cleaning) to reduce dust generation
- Using high-efficiency particulate air (HEPA) vacuum attachments on tools to capture dust

Administrative Controls

- Training and educating workers on the hazards, procedures, and control measures
- Implementing a medical surveillance program (such as chest X-rays, computed tomography (CT) scans, pulmonary lung function tests, etc.)
- Developing and enforcing safe work procedures
- Good housekeeping, including using wet methods and HEPA vacuums to capture dust, and not allowing dry sweeping or cleaning with compressed air
- Developing and following equipment maintenance schedules
- Developing personal protective equipment (PPE) and respiratory protection programs (including fit testing and clean-shaven policy)
- Ensuring waste is properly managed and disposed

Personal Protective Equipment

- When more effective measures are not possible, are in the process of being implemented, or are unable to reduce exposures to acceptable levels, make sure workers use the appropriate personal protective equipment, including respiratory protection. Procedures for putting on or taking off respirators, cleaning and maintenance, and disposal also need to be followed.

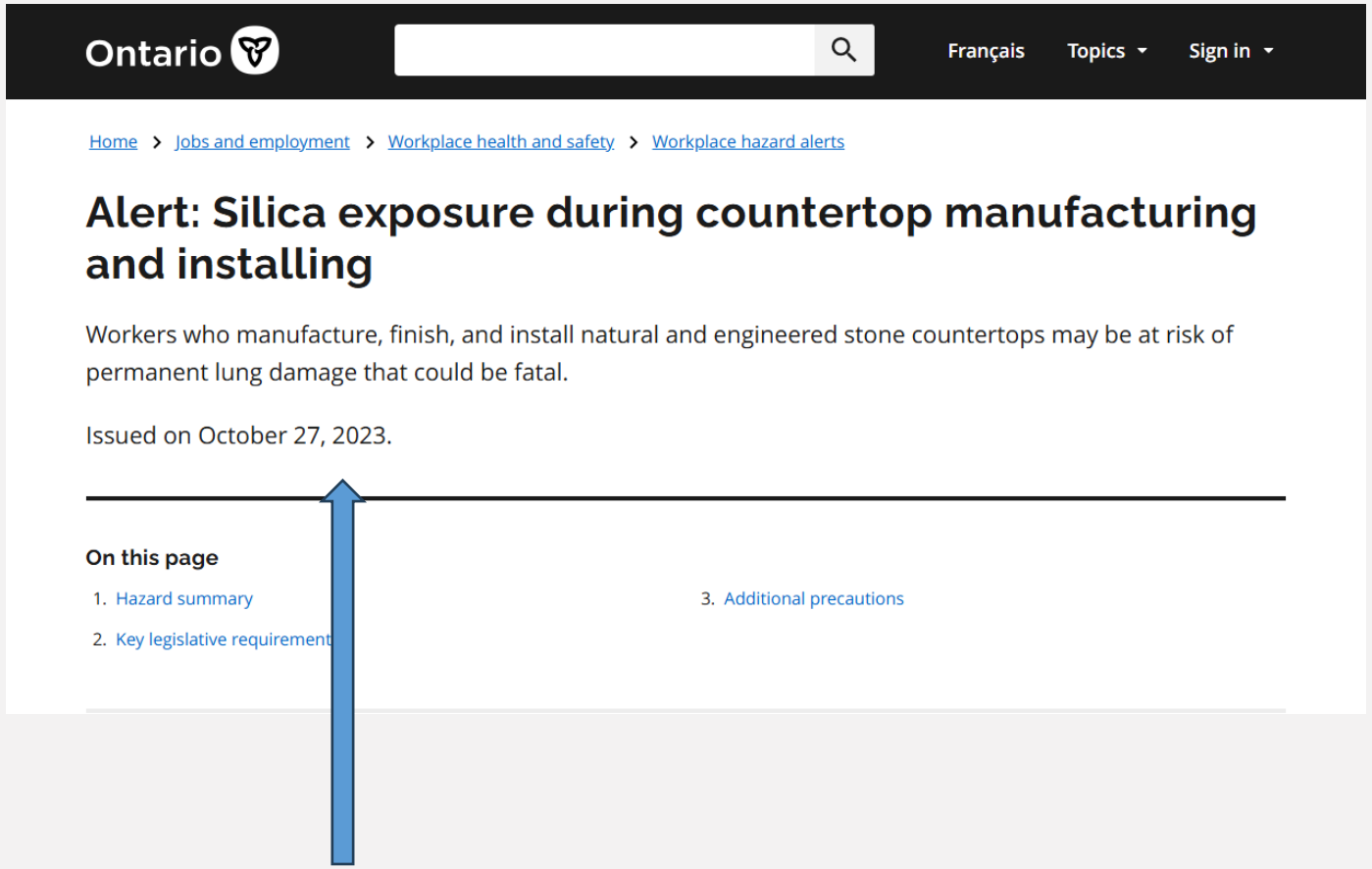
Fact sheet first published: 2025-01-30 | Fact sheet last revised: 2025-01-30

https://www.ccohs.ca/oshanswers/chemicals/engineered-stone-countertops.html

Fact sheet first published: 2025-01-30
Fact sheet last revised: 2025-01-30

Ontario Canada

What about Ontario, Canada



Issued October 27, 2023

Hazard summary

Workers who manufacture, finish and install natural stone and engineered stone countertops are at risk of lung disease resulting from exposure to crystalline silica. Crystalline silica occurs in nature as the mineral quartz. It is found in natural stone, such as:

- granite
- sandstone
- quartzite
- engineered stone, which is man-made from natural stone, resins and pigments

There is a growing worldwide concern that worker exposure to crystalline silica when working with stone countertops can rapidly lead to silicosis, an incurable, disabling and often fatal lung disease. Symptoms of silicosis can include shortness of breath, cough and fatigue.

The risk of developing severe silicosis is especially high for those workers who use hand-held tools to cut or grind engineered stone because of its much higher silica content (up to 95%) than many of the natural stones, such as marble and granite.

Yuen M, Ho K, Abdelsayad A, Lau A, Tarlo SM. **Silicosis from dry-cutting engineered stone in the fabrication of countertops**. Canadian Medical Association Journal (CMAJ). 2026;198(32):E1264-E1265. **September 2026**

Engineered Stone Silicosis in Ontario: CMAJ Case Report (2026)

A **recent Ontario case report** highlights the potential for **progressive and severe silicosis** among workers fabricating engineered-stone countertops, particularly where dry cutting and inadequate dust controls occur.

Case Summary

- 47-year-old countertop fabrication worker with approximately 10 years of engineered-stone exposure.
- Lung nodules were identified incidentally on CT imaging and occupational assessment subsequently confirmed silicosis.
- Despite cessation of exposure, the worker's lung disease continued to progress over the following 18 months.
- The patient ultimately required assessment for lung transplantation, illustrating the potentially irreversible and progressive nature of engineered-stone silicosis.

(Yuen et al. 2026)

This problem is only just emerging in Canada and will most likely lead to multiple deaths and lung transplants for younger workers. **From the recent case series paper in Canada:**

"Silicosis Among Engineered Stone Workers in Ontario, Canada:

A Case Series of 20 Patients"

Silicosis Among Engineered Stone Workers in Ontario, Canada: A Case Series of 20 Patients

Abeer Abdelsayad, Ambrose Lau, Susan M. Tarlo First published: 12 October 2026
https://doi.org/10.1155/carj/9386297Digital Object Identifier (DOI)

This is the first dedicated Ontario case series of engineered-stone silicosis.

It reviewed **20 Ontario workers diagnosed between 2015 and 2025.**

- Median age at diagnosis: **52 years**.
- Median exposure duration: **19 years**.
- **30% had progressive massive fibrosis (PMF)** at presentation.
- **35% developed chronic hypoxemia.**
- **30% were referred for lung transplantation.**
- **15% mortality** was observed.

(Abdelsayad et al. 2026)

Discussion

Of 20 patients who worked with engineered stone and were diagnosed with silicosis in Ontario, which includes data collected between November 2015 and September 2025. The findings reveal a pattern of:

- prolonged occupational silica exposure,
- delayed diagnosis,
- inadequate workplace controls,
- and significant disease severity,
- aligning with emerging reports of re-emerging silicosis among artificial stone and stone-cutting workers in Canada and globally.

All patients were male and primarily **immigrants from Southeast Asia and Eastern Europe**, reflecting a workforce frequently employed in high-risk manual occupations such as stone fabrication.
International reports of engineered stone–associated silicosis have similarly described predominantly male, immigrant workers employed in small workshops with variable regulatory oversight In Canada.

This gap highlights the importance of describing demographic and occupational patterns within the Canadian context.

(Abdelsayad et al. 2026)

The median duration of work was 19 years. This duration is longer than the exposure periods reported in international outbreaks of engineered stone–associated silicosis, where **median or mean exposure durations were typically between 4 and 10 years**. Engineered stone products were introduced internationally in the early 2000s, with rapid expansion in Australia, Europe, and North America after **approximately 2003–2005**. Given this timeline, it is unlikely that the median exposure of 19 years of work with stone in our cohort reflects exclusive exposure to engineered stone. Rather, **many workers likely had initial exposure to natural stone and later transitioned to engineered stone** or mixed exposures as the use of engineered stone became more widespread in Canada. Despite the longer cumulative duration of work with stone compared to previous reports, the high rate of PMF (30%), the relatively young median age at diagnosis (52 years), and **early mortality indicate a more aggressive disease pattern**. This **aligns with the severity observed in engineered stone–related silicosis outbreaks in Australia, Spain, and the United States.**

Workplace Controls and Respiratory Protection

Despite high self-reported respirator use (80%), most patients indicated intermittent use, poor mask fit, reuse of disposable respirators, and limited availability of engineering controls. **Only half reported water use for dust suppression, and most workplaces lacked effective ventilation systems**. These findings align with international evidence that personal protective equipment alone cannot prevent silica exposure when engineering and administrative controls are inadequate. **Self-reported compliance may overstate actual protective behaviors, particularly where concerns about job security or employer liability may influence responses**. Similar differences between reported and observed respirator use have been documented in Canadian and international occupational hygiene studies. (Abdelsayad et al. 2026)

Diagnosis, Imaging Surveillance, and Clinical Monitoring

The diagnosis of engineered stone–associated silicosis remains challenging, particularly in early disease, when abnormalities may be subtle. **Recent Australian data showed that chest radiography had limited sensitivity for detecting engineered stone–associated silicosis, identifying only 48% of cases confirmed by high-resolution Computed Tomography CT (HRCT)**

These findings underscore the **limitations of chest radiography** alone and support considering low-dose chest CT in appropriately selected high-risk workers.

Given the subtle nature of early CT abnormalities, **surveillance imaging should be interpreted by radiologists with expertise in occupational lung disease to optimize recognition of early silicosis and facilitate accurate follow-up**. These considerations align with updated Australian guidance for physicians assessing workers exposed to respirable crystalline silica dust, which emphasizes appropriate clinical assessment and surveillance strategies

Consistent with recent American Thoracic Society recommendations, prevention should prioritize minimizing exposure, effective engineering controls, appropriate respiratory protection, worker health surveillance, and early recognition and diagnosis of silicosis

Limiting exposure may include avoidance of engineered stone in fabrication when other safer substances can be used. (Abdelsayad et al. 2026)

Clinical Presentation and Diagnostic Delay

Cough and dyspnea were the most common presenting symptoms, consistent with prior silicosis cohorts. The median **diagnostic delay of 13.5 months after symptom onset** likely contributed to disease progression at presentation. However, asymptomatic disease may have been present well before symptom development, as demonstrated in Australian CT-based surveillance studies of engineered stone workers, **where early radiologic abnormalities were detected in workers without respiratory complaints**.

In this cohort, **many patients were born in Southeast Asia, where prior tuberculosis exposure is more prevalent**. Misattribution of upper-lobe nodularity or fibrotic changes to healed tuberculosis rather than occupational pneumoconiosis may further delay diagnosis, particularly given the known radiologic overlap and increased TB risk in silicosis. In this study, active tuberculosis was excluded through microbiologic evaluation where clinically indicated, and imaging findings were interpreted in conjunction with detailed occupational histories and other clinical features to distinguish silicosis from prior granulomatous disease.

Radiologically, the predominance of upper-lobe disease, frequent lymphadenopathy, and high rates of calcified nodes are characteristic of silicosis.

The observed coexistence of emphysema (45%) and bronchiectasis (30%) likely reflects a combination of smoking exposure, recurrent infection, and silica-induced airway injury, as described in prior pathological and imaging studies. (Abdelsayad et al. 2026)

Functional Impairment and Outcomes

Pulmonary Function Tests (PFT) revealed predominantly **restrictive physiology**, with reduced Diffusing Capacity of the Lung for Carbon Monoxide (DLCO), consistent with parenchymal fibrosis and **impaired gas exchange**. The relatively normal FEV_1/FVC ratio in most patients further supports restrictive or **mixed ventilatory issues** rather than isolated obstructive disease. The functional impairment was significant, as evidenced by reduced **6-minute walking distance (6MWD)** and exercise-induced desaturation, consistent with the disease severity observed in international cohorts of advanced silicosis **The observed mortality rate (15%) and young median age at death (43 years)** emphasize the life-threatening aspect of modern silicosis, even in wealthy countries with access to advanced healthcare. While antifibrotic therapy and lung transplantation are options for some patients, these treatments are expensive, limited in availability, and do not target the underlying causes of the disease.

Policy, Workplace, and Clinical Implications

These findings have significant implications for occupational health policy and clinical practice in Canada. First, relying solely on respirators without effective engineering and regulatory controls to reduce air levels is insufficient.

Consistent enforcement of mandatory wet cutting, local exhaust ventilation, and a ban on dry cutting across all jurisdictions is necessary as a minimum. Second, increased workplace inspections and oversight, particularly in small workshops and subcontracted settings, are crucial. Third, increased regulation to reduce exposure is needed. (Abdelsayad et al. 2026)

Reducing occupational exposure limits (OELs), harmonizing provincial regulations, and enhancing enforcement through provincial ministries of labor in Canada are essential. **Occupational exposure limits for respirable crystalline silica vary internationally**.

Ontario currently applies an 8-h time-weighted average exposure limit of 0.1 mg/m^3 for quartz, compared to the Occupational Safety and Health Administration (OSHA) PEL and the National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit (REL) of 0.05 mg/m^3, and the **American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 0.025 mg/m^3.**

Alignment with more protective exposure limits, together with **effective implementation and enforcement of exposure control measures**, may improve protection of workers in engineered stone fabrication.

At a minimum, mandatory baseline and periodic medical surveillance, including spirometry and imaging, should be implemented for high-risk workers, along with culturally and linguistically appropriate education for workers.

However, Australian findings suggest that chest CT scans may be needed to detect asymptomatic disease earlier.

Given the subtle nature of early CT abnormalities, surveillance imaging should be interpreted by radiologists with expertise in occupational lung disease to optimize recognition of early silicosis and facilitate accurate longitudinal follow-up.

Due to the practical difficulties in early detection and prevention of engineered stone–associated silicosis, Australia has now banned engineered stone, the ban came into effect nationally on July 1, 2024.

Although this study includes only 20 patients, these cases likely represent only a proportion of affected workers in Canada.

Experience from other countries demonstrates that **clinically recognized cases often represent only a fraction of the underlying disease burden**, particularly in the absence of systematic surveillance programs.

The growing international recognition of engineered stone–associated silicosis suggests that additional cases may remain undiagnosed among exposed Canadian workers, underscoring the need for improved surveillance strategies and occupational health protections.

Clinically, improved recognition of occupational risk factors, earlier referral to respiratory specialists, and integration of occupational history into routine clinical assessments are necessary to reduce diagnostic delays.

Multidisciplinary management, including occupational medicine, respiratory medicine, and social support services, is crucial for affected workers.

This case series due to engineered stone in Canada offers detailed clinical, occupational, and functional data from a Canadian context, adding to the limited but growing national literature on contemporary silicosis.

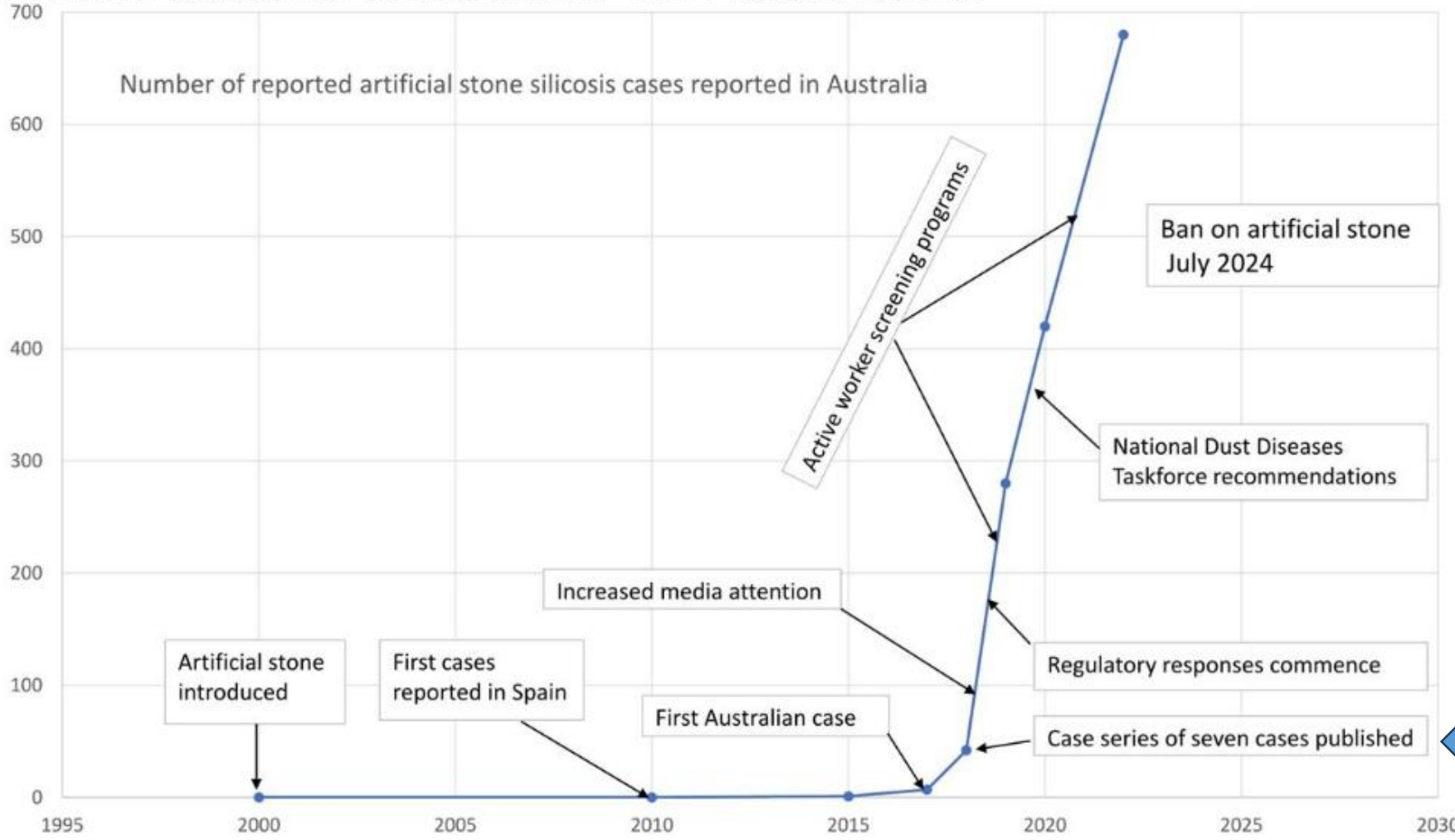
This is the first published case series from Canada, and it describes clinically diagnosed engineered stone–associated silicosis among workers in Ontario.

This adds to the growing international evidence, including the initial California case series, which was subsequently followed by identification of 592 cases and major regulatory changes.

As a clinically identified case series, 20 cases may represent only a fraction of the underlying disease burden.

The findings align with broader national and international trends and emphasize the urgent need for better preventive measures.

Artificial stone timeline in Australia



Case series of 7

Ann Work Expo Health. 2025 Jan 8;69(1):1-4

Conclusion

This case series demonstrates severe but preventable engineered stone–associated silicosis in Canadian workers.

These findings **support the urgent implementation** of effective engineering controls, reduction of respirable crystalline silica exposure, comprehensive medical surveillance, and strengthened occupational health regulations.

Further regulatory restrictions, including limitations on the use of engineered stone, should also be considered in Canada, consistent with recent international policy developments.

1) Introduction to **Workplace Health Without Borders(WHWB)** (International) **please join!**
2) "**Engineered / Artificial Stone**"

Occupational Health Clinics for Ontario Workers Inc. / Centres de santé des travailleurs (ses) de l'Ontario Inc.

Advocacy provided by WHWB

I. Previous webinars, WHWB US, and WHWB International part A (how big is the problem) and part B (controlling exposure to silica in engineered stone countertops)
II. Most recent webinar delivered by WHWB International **ENGINEERED STONE - an Unacceptable Hazard**
III. What is the latest – Australia, California, UK and now "**including Ontario Canada**".



Kitchen refit worker, 32, dies of lung disease after calling for deadly stone ban

Professor Deborah Glass
– Monash University Australia


The cat is out of the bag.
Now what?
QUARTZ COUNTERTOPS
ENGINEERED STONE SILICOSIS
• Hidden risk
• Workers getting sick
• Global outbreak
• No longer a secret
THE TRUTH
WORKER HEALTH
REGULATION & ACTION
PREVENTION
SURVEILLANCE
ENFORCEMENT
PROTECT WORKERS
Recognition is just the beginning.
Real change comes next.