



Protecting Workers from Silica: CDPH's Efforts and Strategies

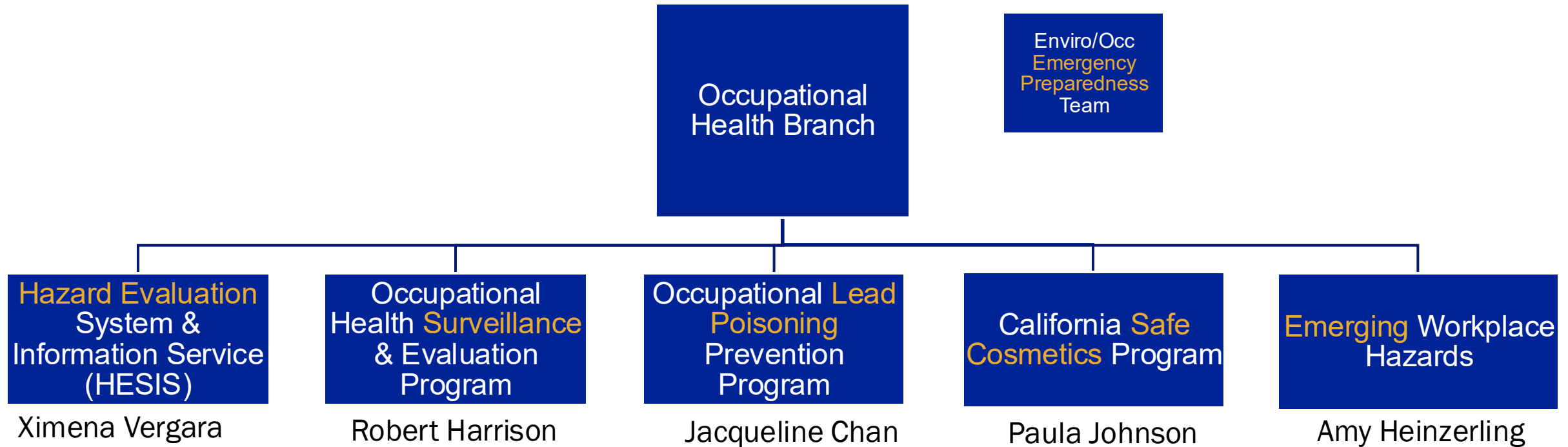
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Occupational Health Branch

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Intersection of CDPH and Cal/OSHA

OHB Mission: Promoting safe and healthy workplaces across California



HESIS Enabling Legislation and Mandates

Statutory basis of HESIS: Labor Code Sect. 147.2

“...the Department of Industrial Relations shall, by interagency agreement with the State Department of Health Services, establish a repository of current data on toxic materials and harmful physical agents in use or potentially in use in places of employment in the state...”

- **Mandate 1** - Provide reliable hazard information of practical use
- **Mandate 2** - Collect and evaluate toxicological and epidemiological data pertinent to establishing harmful effects
- **Mandate 3** - Obtain customer lists for hazard evaluation and communication (SB 193)
- **Mandate 4** - Recommend occupational safety and health standards
- Four additional “less used” mandates

HESIS Functions: Support Cal/OSHA Standards Development

- As a designated state program, CA has standards *at least as protective as* Fed/OSHA
- Permissible Exposure Limits (PELs)



Silica and Silicosis

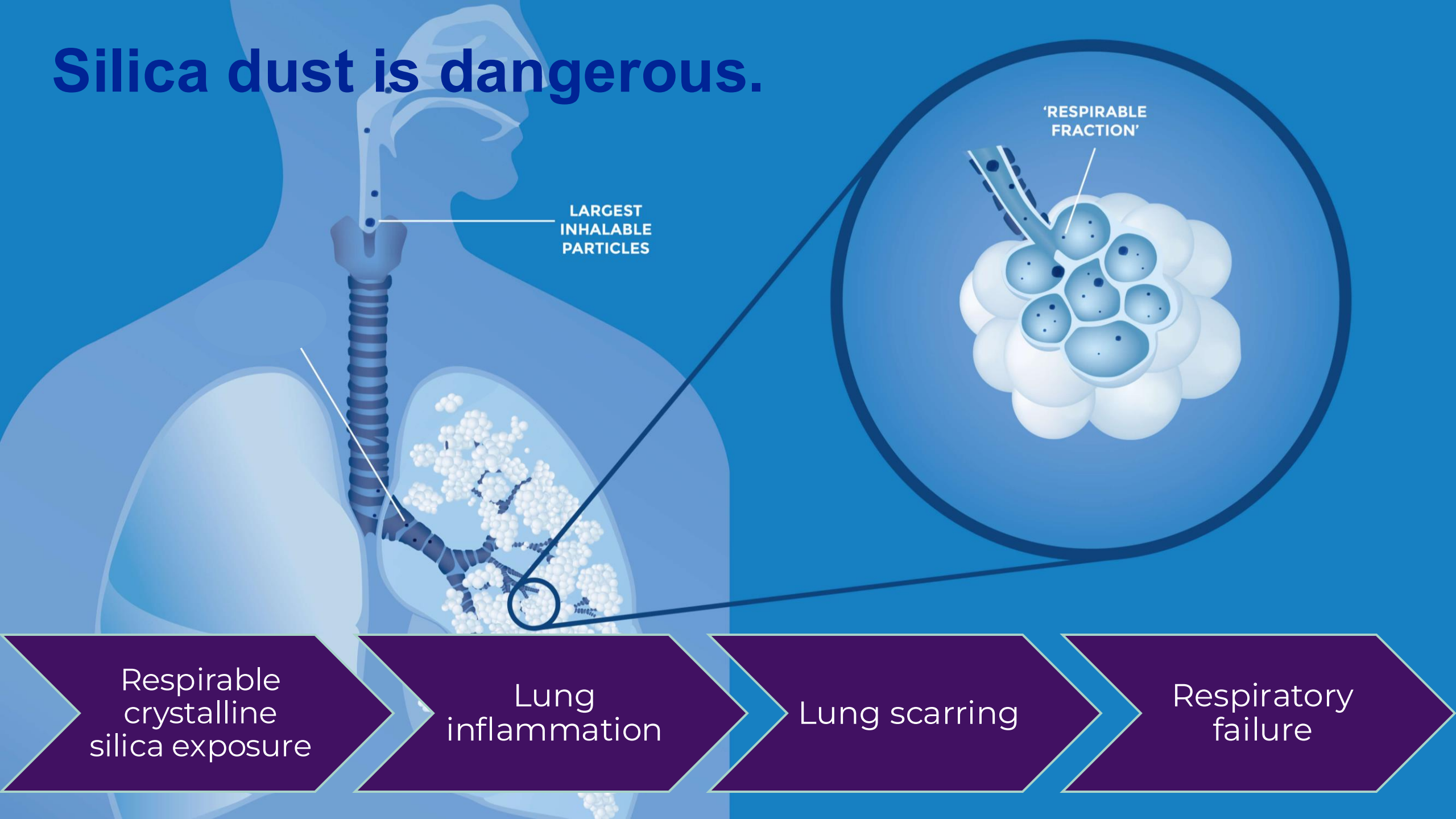
The background is a solid purple color. On the right side, there is a decorative graphic consisting of several thin, light purple lines that intersect at a central point, forming a starburst or web-like pattern. The lines extend towards the top and bottom right corners of the image.



What is silica? And why is it dangerous?

- Silica-containing materials include:
 - Stone
 - Sand
 - Concrete
 - Mortar/Brick
- Crushing, cutting, or grinding these materials can create dust containing **respirable crystalline silica (RCS)**, which is hazardous
- Occurs mostly in **occupational settings**

Silica dust is dangerous.



Health effects of silica dust exposure

- **Silicosis** is a progressive, incurable lung disease caused by silica dust exposure.
 - Common symptoms include shortness of breath and cough
 - Abnormalities on chest imaging and pulmonary function test
- Exposure can also cause:
 - Other lung diseases, such as lung cancer, chronic obstructive pulmonary disease (COPD), and tuberculosis.
 - Kidney disease
 - Autoimmune disease, such as rheumatoid arthritis and scleroderma.

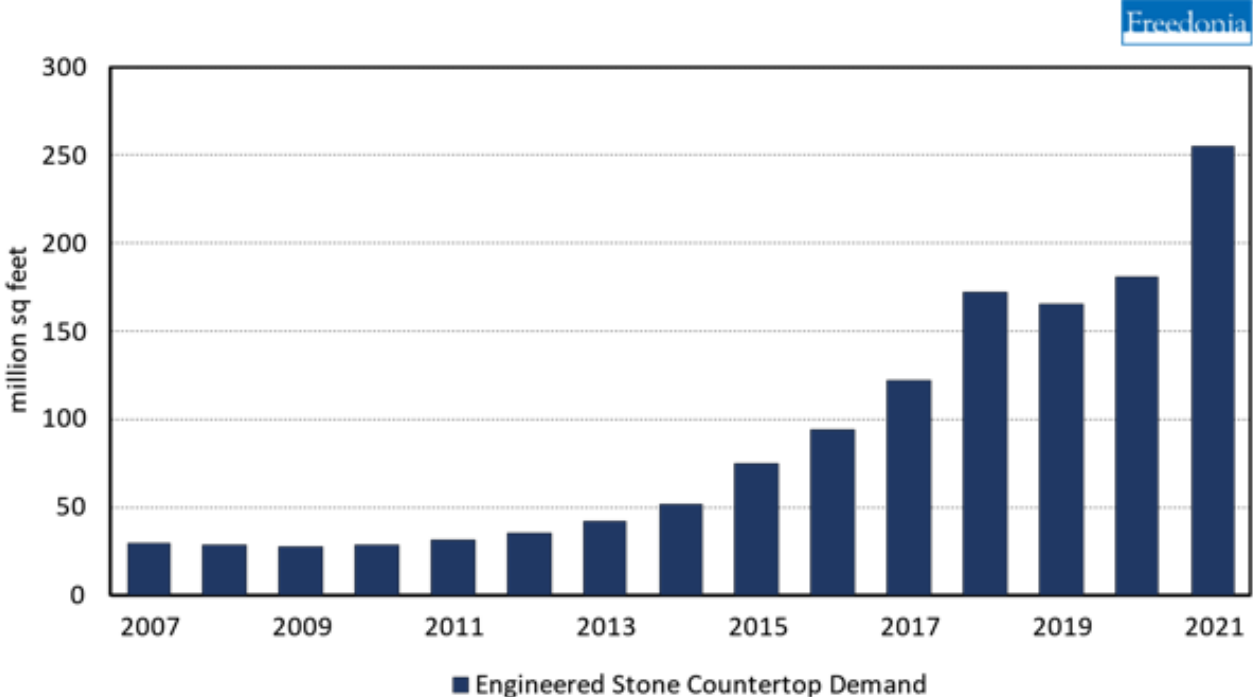
Countertop Fabrication



Demand for engineered stone is increasing dramatically.



U.S. Engineered Stone Countertop Demand, 2007-2021 (million square feet)



Source: The Freedonia Group

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<5% silica

Marble



~45% silica

Granite

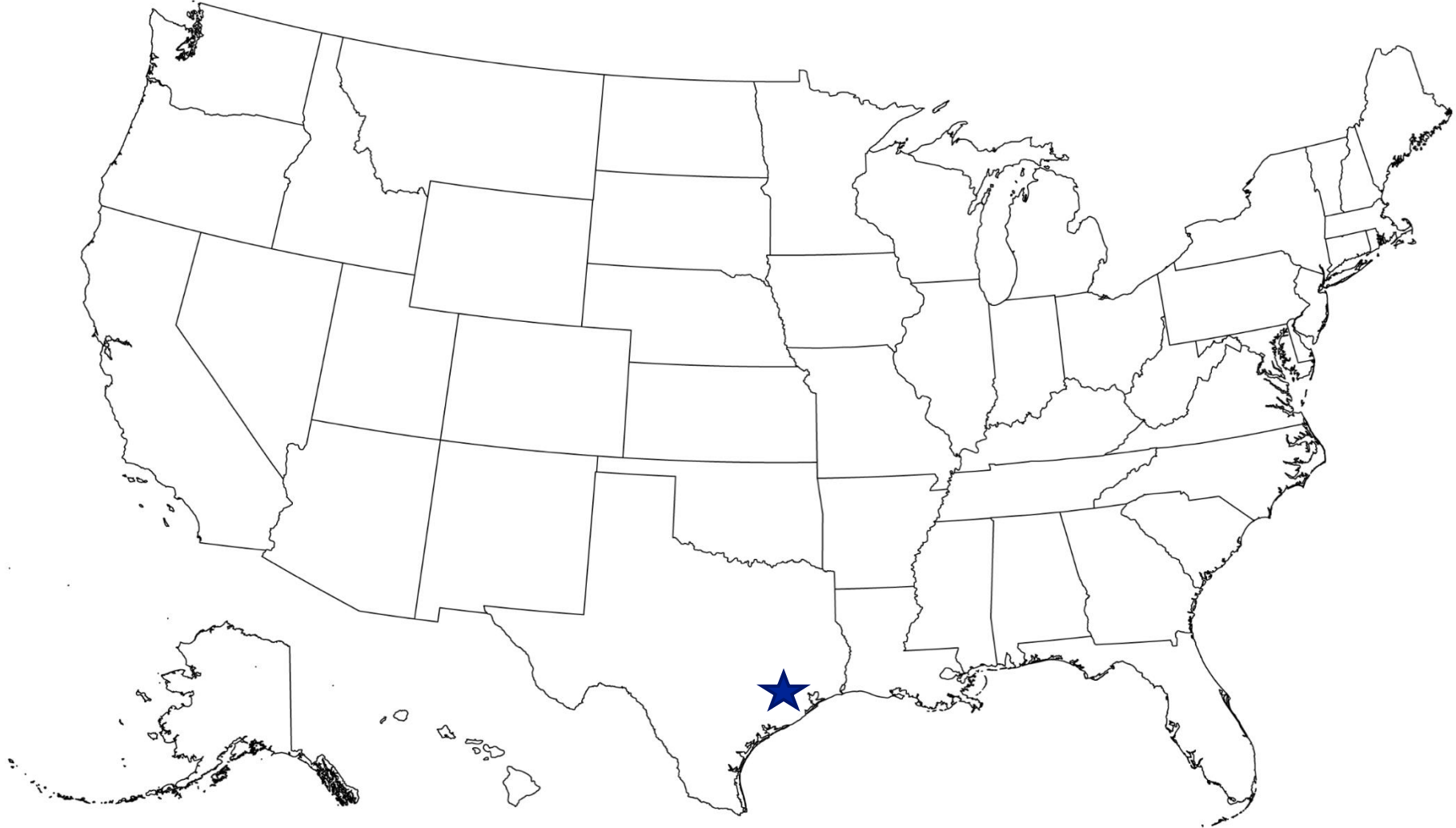


>90% silica

Engineered Stone



Index US Case - Houston, Texas



Index California Case



2004



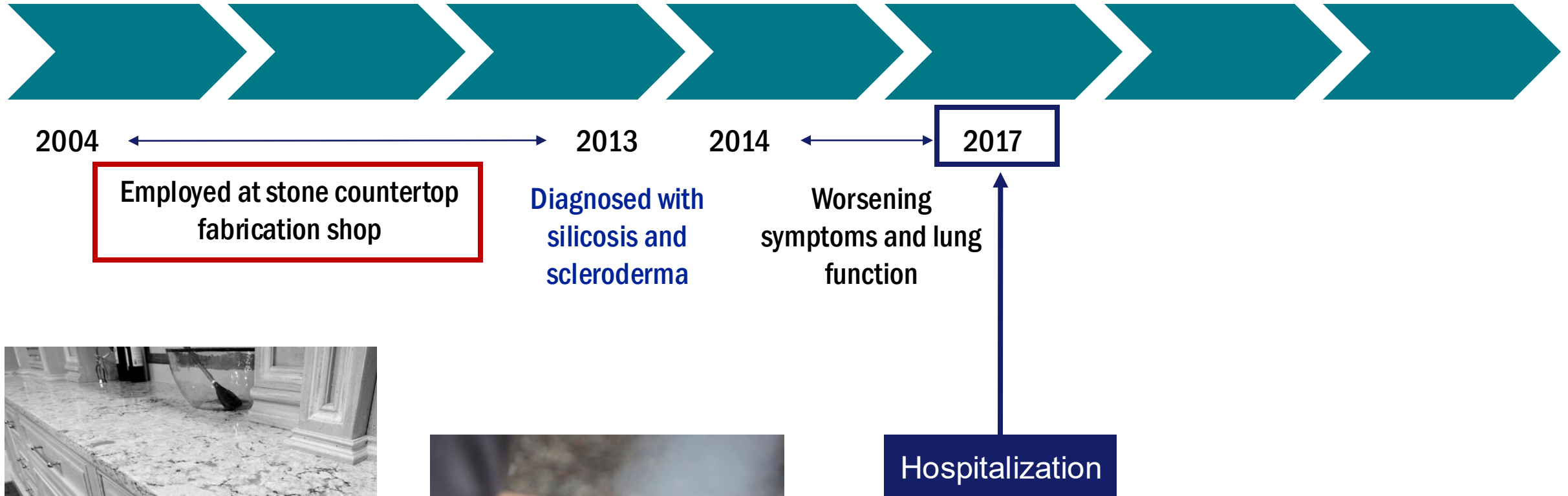
2013

Employed at stone countertop fabrication shop

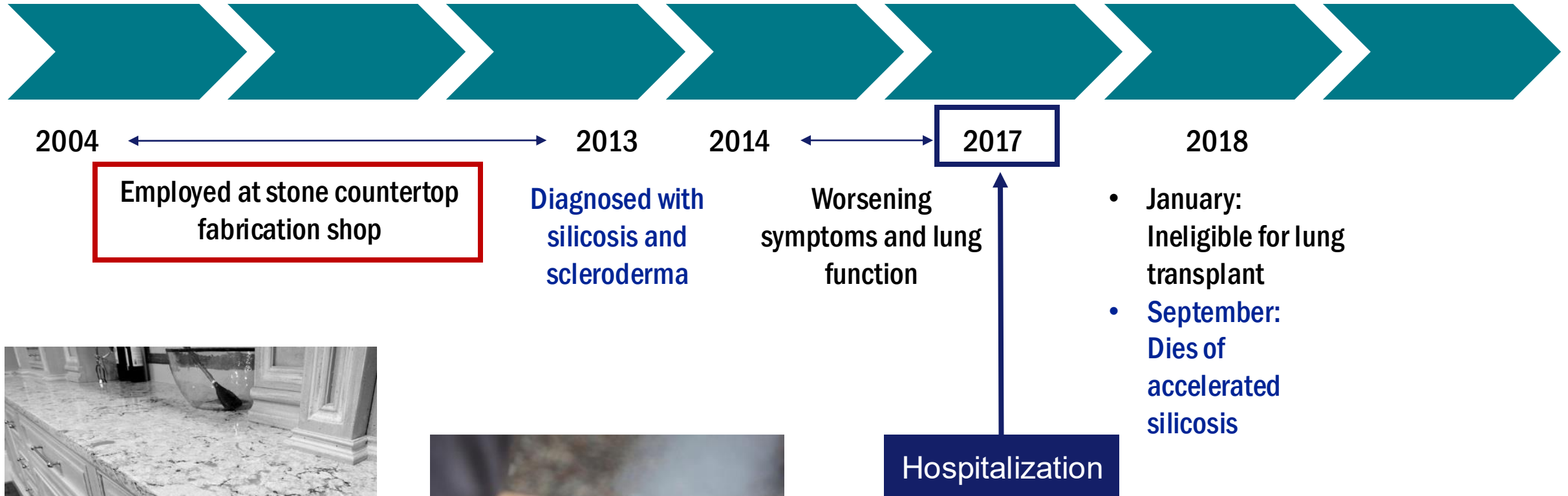
Diagnosed with silicosis and scleroderma



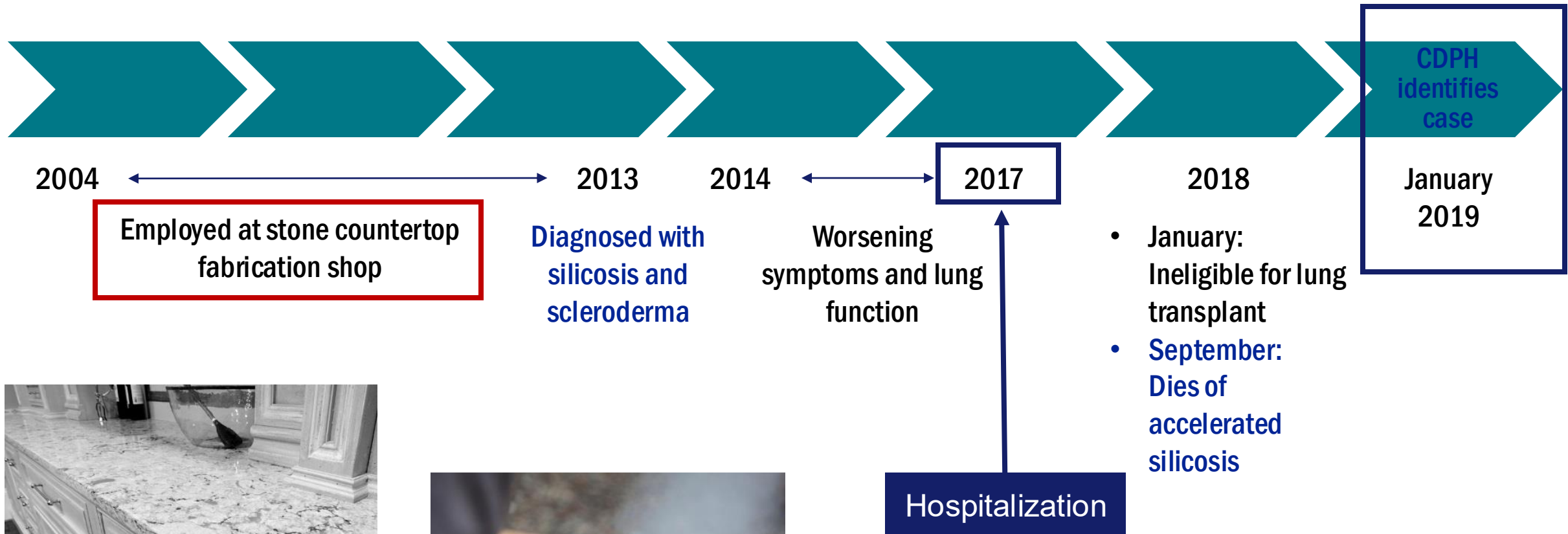
Index California Case



Index California Case



Index California Case

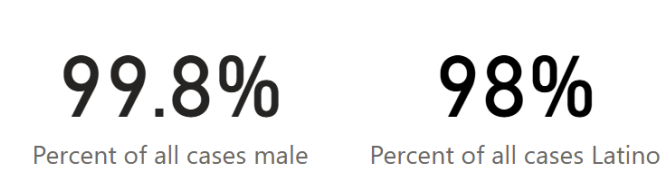
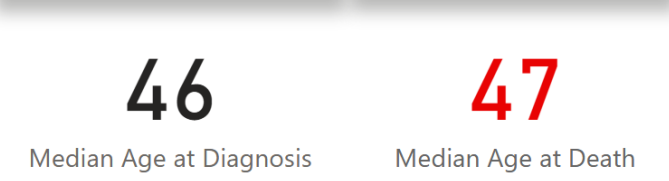


Silicosis in engineered stone fabrication workers

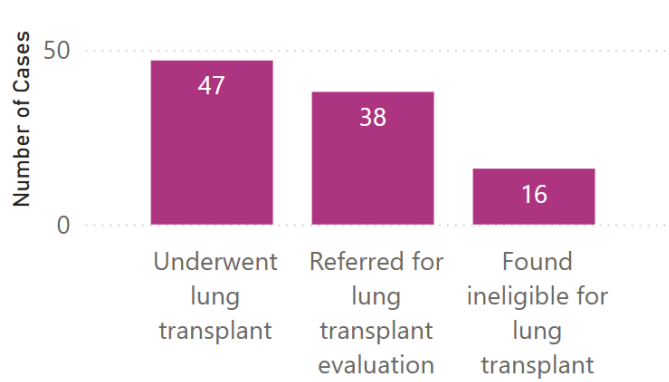
- **Worldwide**
 - >4500 cases identified worldwide
 - Outbreaks of silicosis have been reported in several countries among workers who cut and finish engineered stone slabs for countertops
 - Many are **young workers** with **rapidly progressive disease**

California Engineered Stone (ES) Silicosis Surveillance Dashboard

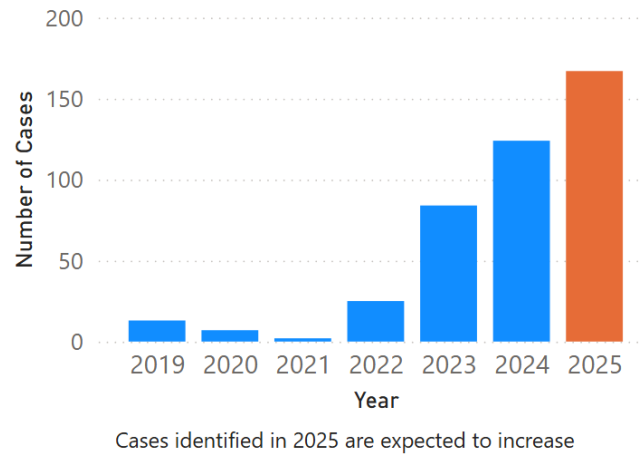
Date last updated: 10/23/2025



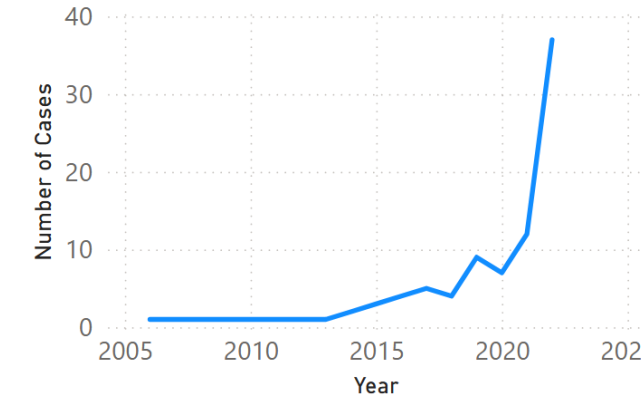
Last known transplant status for confirmed ES Silicosis cases



Year confirmed ES Silicosis cases identified by CDPH



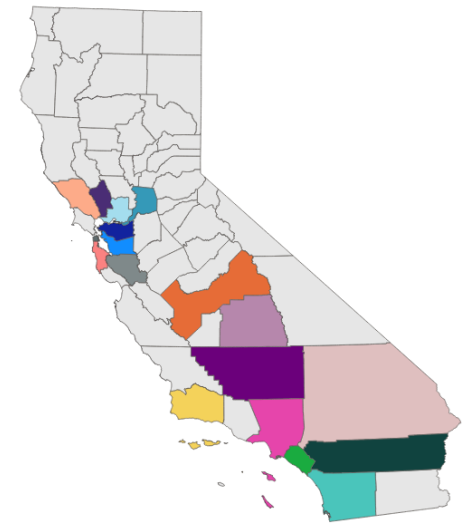
Year of diagnosis* for confirmed ES Silicosis cases



*Known years of diagnosis are displayed through 2022; data for more recent years are incomplete due to reporting lags. Diagnosis year is missing for some cases.

Confirmed ES Silicosis cases have been identified in the following counties:

- Alameda
- Contra Costa
- Fresno
- Kern
- Los Angeles
- Napa
- Orange
- Riverside
- Sacramento
- San Bernardino
- San Diego
- San Francisco
- San Mateo
- Santa Barbara
- Santa Clara



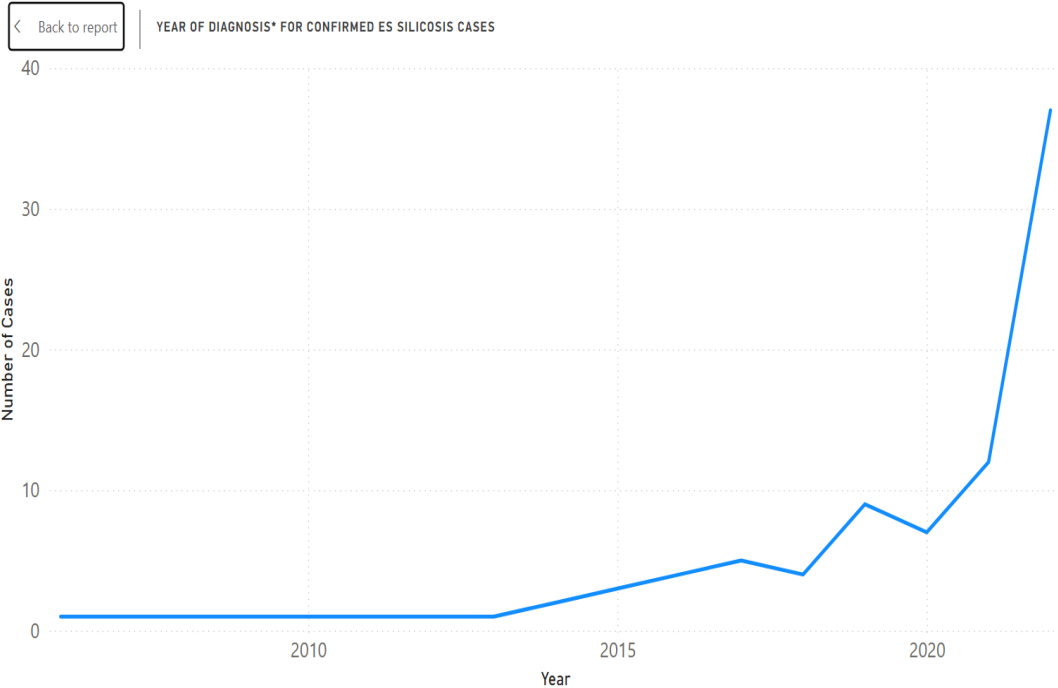
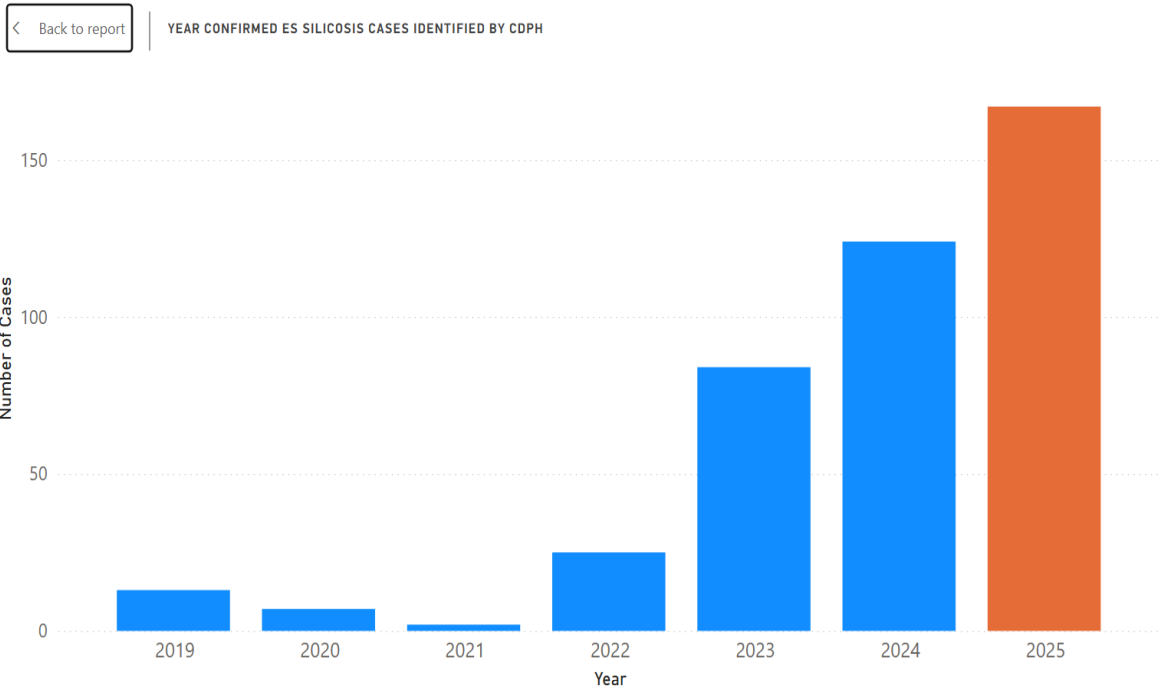
County of residence

All

County	Count
Alameda	15
Alpine	No known cases
Amador	No known cases
Butte	No known cases



Cases Increasing in California

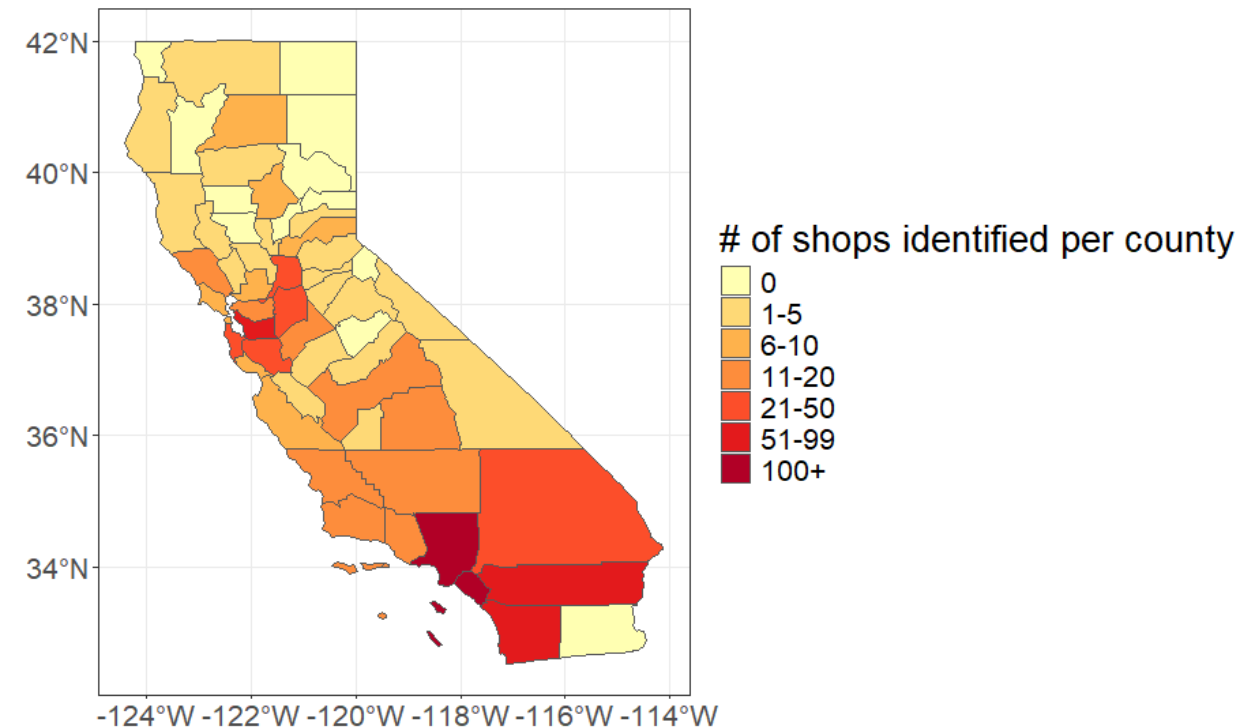


The Tip of an Iceberg?

- >900 shops in California
- 100,000 workers in US
- Silicosis prevalence estimates
 - 12% in one CA workplace
 - >20% in Australian screening programs
- Likely many unidentified cases in California and nationally

Engineered Stone Fabrication Shops in CA

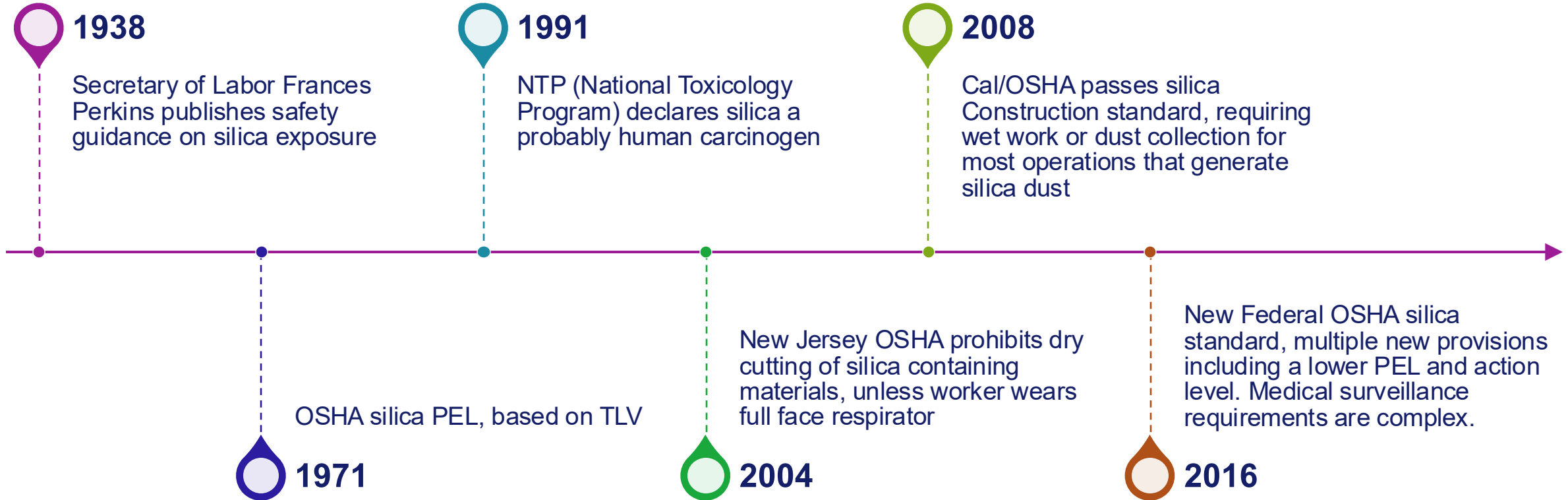
as of 5/6/24



Cal/OSHA Standard

Occupational Exposures to Respirable Crystalline Silica

Previous Silica Regulations



Hierarchy of Controls

Most effective



Least effective

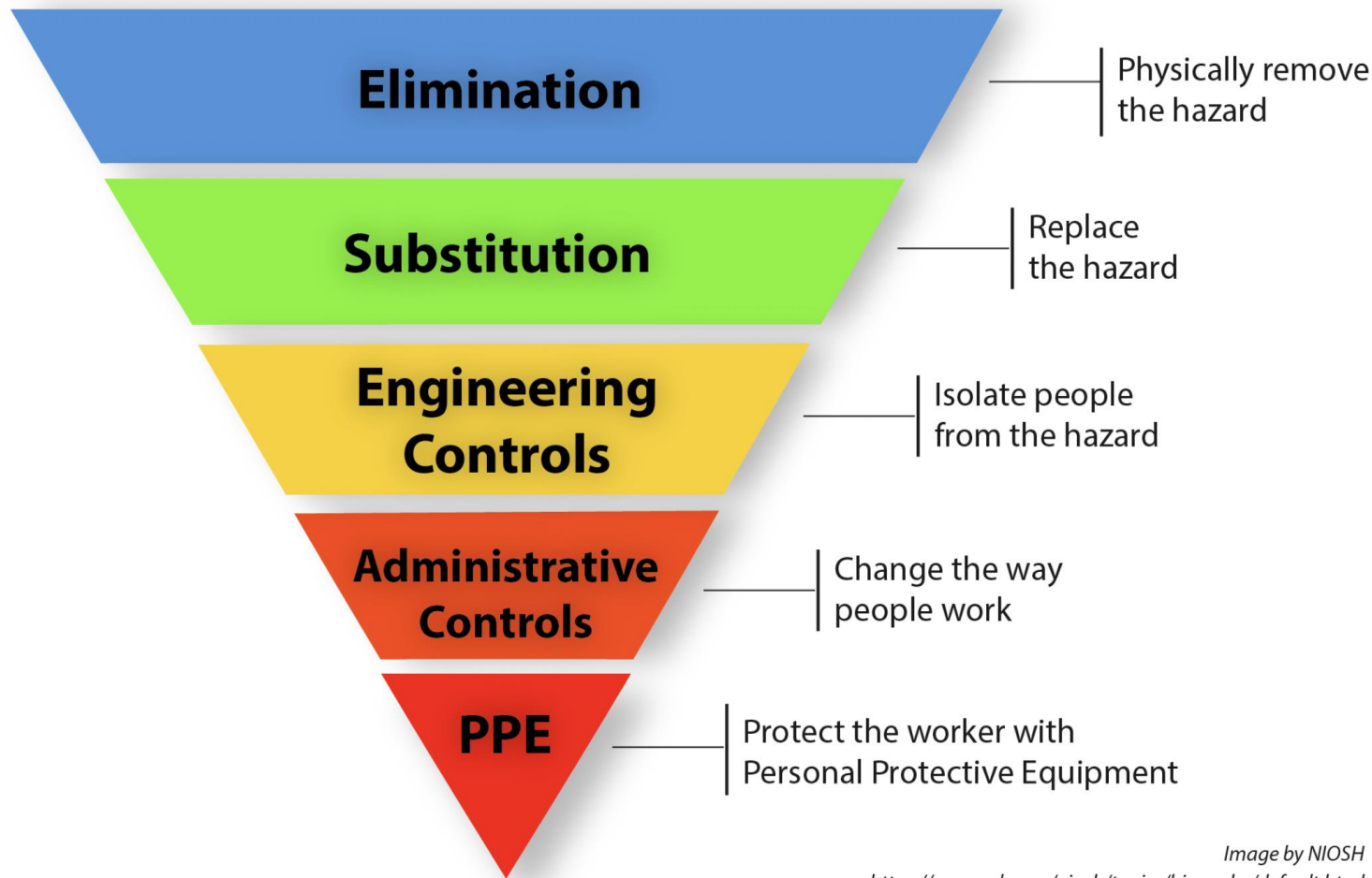


Image by NIOSH

<https://www.cdc.gov/niosh/topics/hierarchy/default.html>

New Cal/OSHA Regulations

NEWS

California Fast-Tracks Rules to Protect Stonecutters From 'Horrible' Deaths



By Farida Jhabvala Romero Jul 22 Save Article



Leobardo Segura-Meza, 27, speaks to California workplace regulators via video on July 20, 2023, while his wife Mirian looks on. Segura-Meza, who requires an oxygen tank at all times to breathe, was diagnosed last year with silicosis after working for 10 years cutting engineered stone countertops. (From Cal/OSHA meeting screenshot.)

- Emergency Temporary Standard (Dec 2023)
 - Bans dry cutting and other high-risk practices.
 - Requires higher-level respiratory protection (PAPRs).
 - Empowers Cal/OSHA to issue Orders Prohibiting Use (OPUs).
- Permanent Standard went into effect early 2025:
 - Adds chest CT to medical screening
 - Requires all medical screening to be reported to CDPH

High exposure trigger tasks

Tasks that generate high respirable crystalline silica exposure, including:

- Working with artificial stone (>0.1% silica) or natural stone (>10% silica) - cutting, grinding, drilling, polishing, etc.
- Handling or cleaning up dust, debris, or waste from these tasks
- **This essentially includes all countertop fabrication workers who are doing any fabrication work**



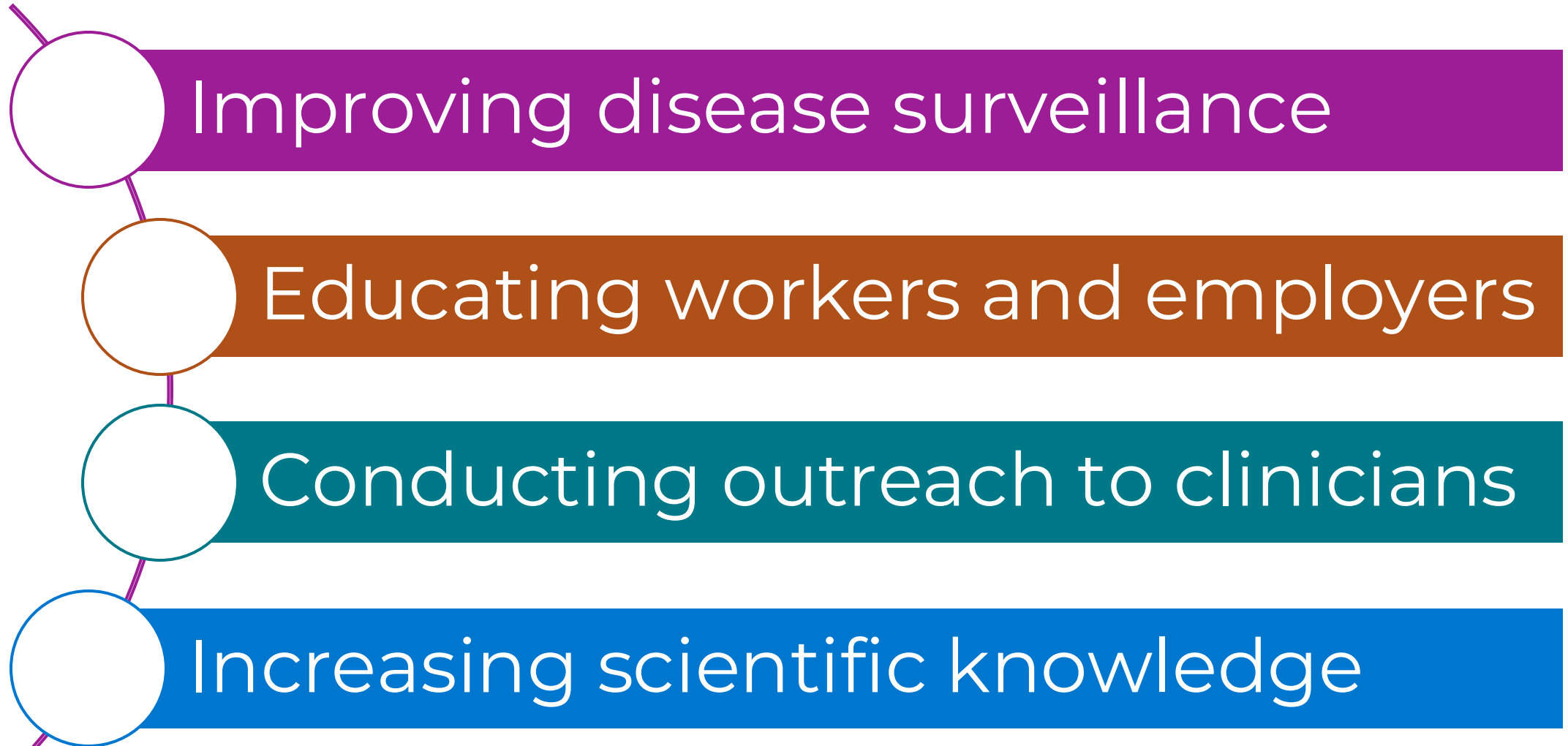
Silicosis Medical Surveillance Exam: Required Components

- Baseline and periodic exams every 3 years or more frequently if recommended by the PLHCP
- Clinical and occupational history and physical exam
- Chest imaging
- Pulmonary function testing
- Latent TB screening (only at baseline exam)
- Any other test recommended by the PLHCP

CDPH's role and initiatives



How CDPH is addressing the problem



Educating workers and employers

工人危害警示



檯面作業產生的矽塵會對您造成傷害！

您是否使用工程石製造檯面？

工程石(也稱為人造石或人造石英)，是一種處理起來很危險的檯面石材。切割、打磨和拋光工程石會讓矽塵散佈到空氣中。吸入矽塵是不安全的。

粉塵如何對您造成傷害？

當矽塵進入您的肺部時，會對其造成傷害。矽塵會導致一種名為矽肺病的疾病。矽肺病無法治療，且情況會隨著時間惡化。矽塵還可能導致肺癌和其他健康問題。



加州工人死亡案例
自2019年以來，我們得知加州至少22名工人死亡，他們的工作是拋光、切割和打磨檯面。大多數在去世時僅三十多歲或四十多歲。

如果我認為工作中的粉塵導致我出現呼吸問題，該怎麼辦？

向您的雇主要求提供您所處理石材的**安全資料表(SDS)**。如果您咳嗽或呼吸困難，請就醫。請攜帶安全資料表(SDS)及本危害警示。醫生可以為您進行檢測，找出導致您呼吸問題的原因，並告知您有助於呼吸的治療方法。

2025年8月 • ©V2.0

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Alerta de peligro para trabajadores

¡El polvo de sílice generado al trabajar con encimeras puede dañarlo!



¿Fabrica encimeras utilizando piedra de ingeniería?

La piedra de ingeniería, también llamada piedra artificial o cuarzo, es un tipo de piedra para encimeras con la que es peligroso trabajar. Cortar, moler y pulir cuarzo libera polvo de sílice en el aire. Respirar polvo de sílice es peligroso.

¿Cómo lo daña el polvo?

Cuando el polvo de sílice entra en tus pulmones, te daña. Esto puede causar silicosis. No existe cura para la silicosis. La silicosis también puede causar problemas de salud.



Muertes de trabajadores
Desde 2019, se registraron al menos 22 muertes de trabajadores en California que muelen, cortan y pulen encimeras. La mayoría estaba en sus 30s y 40s cuando murieron.

¿Qué debo hacer si creo que tengo problemas respiratorios por el polvo en mi trabajo?

Pídale a su empleador los **Datos de Seguridad (SDS)** de la piedra con la que trabaja. Si usted tiene problemas para respirar, lleve una Alerta de peligro. El hacerle pruebas por causa de sus problemas y explicarle los tratamientos pueden ayudar.

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Hazard Alert for Workers

Silica dust from countertop work can harm you!



Do you make countertops using engineered stone?

Engineered stone, also called artificial stone or quartz, is a dangerous kind of countertop stone to work with. Cutting, grinding and polishing quartz puts silica dust into the air. Silica dust is unsafe to breathe.

How does the dust harm you?

When silica dust gets into your lungs, it damages them. This can cause a disease called silicosis. There is no cure for silicosis. Silicosis makes it hard to breathe, which gets worse over time and can lead to death. Silica dust can also cause lung cancer and other health problems.



Worker Deaths in California
Since 2019, we have learned of at least 22 workers in California who died from silicosis. They worked polishing, cutting and grinding quartz countertops. Most were in their 30s and 40s when they died.

What should I do if I think I have breathing problems from dust at my job?

Ask your employer for the **Safety Data Sheets (SDSs)** for the stone you work on. See a doctor if you are coughing or have trouble breathing. Bring the SDSs and this Hazard Alert with you. The doctor can test you to see what is causing your breathing problems and tell you about treatments to help you breathe.



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Confidential - Low

A Guide for California Employers: Workplace Air Monitoring for Silica during Engineered Stone (Quartz) Fabrication Work



May 2025 • V2.0



Outreach to clinicians

- California Health Alert Network (CAHAN) advisory
- Journal articles
- Provider fact sheets
- Continuing Medical Education (CME) course
- California Medical Association (CME) Grand Rounds & other presentations by CDPH staff

1. What is Silicosis?

Silicosis is a progressive and incurable fibrotic lung disease that develops due to inhalation of respirable crystalline silica.

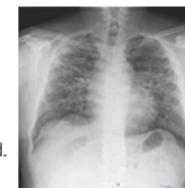
Many cases of silicosis¹ have been identified among countertop fabrication workers. Artificial stone materials, also known as quartz, have very high silica content (> 90%) and are especially dangerous.

2. Who is at Risk?

- **Countertop fabricators** who cut, polish or grind **artificial stone** can be exposed to large amounts of toxic silica dust, which can cause **accelerated silicosis**.
- Most cases identified in California have occurred among young **immigrant men**.
- Most patients report that **dust control measures**, such as water suppression, ventilation, and respiratory protection, were **inadequate in their workplaces**.

3. Identifying Patients with Silicosis

- Patients with silicosis may present with respiratory symptoms or be asymptomatic.
- Patients with silicosis are often misdiagnosed with tuberculosis (TB) or pneumonia.
- Providers should ask **patients about work history** and consider silicosis in both asymptomatic and symptomatic countertop fabrication workers.
- Order chest imaging and pulmonary function tests when silicosis is suspected.
 - Chest x-ray may have limited sensitivity for silicosis; consider follow-up chest CT if x-ray is negative and index of suspicion is high.



4. Diagnostic Criteria

1. History of silica dust exposure
2. Chest imaging and/or lung pathology consistent with silicosis
3. Absence of another explanatory diagnosis

Silicosis Diagnosis: Next Steps

1. Refer patients to Pulmonology and Occupational Medicine.
2. Refer patients to Division of Workers' Compensation¹ (workers are eligible regardless of immigration status).
3. Report to public health¹.

5. Silica Medical Surveillance Exams

Cal/OSHA requires medical surveillance exams for silica exposed workers. Providers performing silica medical exams should review the Cal/OSHA silica regulation¹ for additional information.

Such exams must include:

1. Clinical and occupational history, physical exam
2. Low-dose chest CT **OR** chest x-ray classified by NIOSH-certified B reader, depending on exposure.
 - a. **Chest x-ray: profusion score > 1/0 is abnormal.**
3. Pulmonary function tests (spirometry)
4. Latent TB infection test

Report all silicosis cases detected through medical surveillance to Cal/OSHA¹ and California Department of Public Health (CDPH)¹. In addition, report all exam results, regardless of diagnosis, to CDPH.

6. Treatment Options

Treatment options are limited, with no specific therapy identified at this time. Recommendations for management include:

1. **Avoiding** further silica exposure, which may be difficult for patients who depend on this work for their livelihood. For patients with silicosis who choose to continue in countertop fabrication, a supplied-air respirator is required.
2. **Supportive care** with bronchodilators for symptom management and supplemental oxygen when needed.
3. **Lung transplant** when respiratory failure progresses.



Increasing scientific knowledge

- California Artificial Stone Silicosis (CASS) study
 - Investigating sensitivity of diagnostic tools for silicosis
 - Offering medical screening for silicosis to current countertop workers in LA County
 - Funded by NIOSH, through the California Labor Laboratory at UCSF
- Reviewing available & emerging scientific evidence

Departamento de Salud Pública de California
División de Salud Ocupacional

¿TRABAJA COMO FABRICANTE DE CUBIERTAS?



¡Te invitamos a unirse a nuestro estudio sobre salud pulmonar y polvo de sílice!

Debe tener 18 años o más, hablar inglés o español, y vivir in el condado de Los Angeles.

Si participa, se le pedirá lo siguiente:

- ✓ Responda las preguntas sobre su salud y las tareas que realiza en el trabajo
- ✓ Hágase pruebas respiratorias, de rayos X y de sangre

A cambio de su tiempo y participación, recibirá una tarjeta de regalo de \$200 y los resultados de las pruebas **GRATIS**.

No tendrán costo para usted ni para su seguro.

Comuníquese con nosotros para obtener más información:

(279) 667-0431
silica.study@cdph.ca.gov

California Department of PublicHealth



Surveillance

Title 17, Reportable Diseases and Conditions

Section 2500

Section 2500 specifies that healthcare providers must report all cases of the listed conditions to the local health department within the specified timeframe. The updated 2500 condition list is posted on the Division of Communicable Disease Control website and can be found here: [Reportable Diseases \(PDF\)](#). The changes to this section are outlined below.

The following conditions have been **added** and are now required to be reported to the local health department:

- **Melioidosis** – report immediately by telephone
- ***Cronobacter sakazakii* infections in infants less than one year of age** – report within one working day
- **Multisystem inflammatory syndrome in children (MIS-C)** – report within one working day
- **Silicosis** – report within seven calendar days ←

Challenges

- **Product:** widely available, popular, toxic to fabricators not consumers
- **Industry:** global, decentralized, small shops
- **Workers:** not unionized, socioeconomically vulnerable
- **Clinicians:** unfamiliar with disease, reporting mechanisms
- **Public health:** surveillance tools limited, outreach difficult
- **Regulators:** citations have limited impact, no limits on sale or use

Elimination

- **July 2024:** ban on engineered stone in Australia
 - Manufacture
 - Supply
 - Processing
 - Installation



Substitution

Select products with lower or no silica content

- Natural: marble, granite, wood
- Manufactured: ceramic, porcelain, concrete
- New engineered stone products



Summary: Silicosis from Engineered Stone

- Large and growing problem
- Impacts young, immigrant workforce
- Burden of disease likely underestimated
- Prevention requires multifaceted approach

For more information

- Visit the CDPH Occupational Health Branch [silica website](#) for additional resources.



