management likely reflect structural barriers. A key focus for services will be ensuring affordability, visibility, and access for racial and ethnic minority groups and marginalized groups.

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Accepted for Publication: November 3, 2023.

Published Online: January 2, 2024. doi:10.1001/jamainternmed.2023.7291

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Author Contributions: Dr Aiken had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: All authors.
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Conflict of Interest Disclosures: Dr Aiken reported grants from the Society of Family Planning, Kopcho Reproductive Freedom Foundation, William and Flora Hewlett Foundation, and National Institutes of Health during the conduct of the study. Dr Gomperts reported being a founder and director of Aid Access. No other disclosures were reported.

Data Sharing Statement: See the Supplement.

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COMMENT & RESPONSE

Preventing the Continuing Tragedy of Silicosis

To the Editor The case reports of silicosis associated with occupational exposure to dust from engineered stone occurring primarily among young Latino immigrant men[1] are tragic and shocking. Unfortunately, that these cases occurred was also predictable.[2] While fabrication of engineered stone kitchen and bathroom countertops is a relatively new industry, the risks associated with exposure to airborne silica particles have been known for centuries, and reports of lung transplants among engineered stone workers were reported in the scientific literature in 2012.[3] Disease prevention begins with anticipating that disease may occur, recognizing the conditions that permit occurrence, and responding by mitigating or eliminating the offending exposures. In this instance, as is too often the case, disease recognition was delayed, and preventive interventions are late and limited.

In 2016, the Occupational Safety and Health Administration (OSHA) issued an updated silica standard,[4] one that if followed could have prevented many of these cases. This report demonstrates that, even with an enforceable standard, many workers, particularly immigrant workers and others employed by small employers, are at elevated risk for serious illness. Although the OSHA law requires employers to provide workplaces free of recognized hazards, OSHA is severely underresourced and cannot conduct sufficient inspections to identify employers who are not complying with regulations. As a result, even though the agency has prioritized inspecting establishments where workers are exposed to silica, most shops doing this extremely hazardous work will never see an OSHA inspector. Enabling OSHA to hire many more inspectors, increasing the size of its monetary penalties, and enacting criminal penalties for situations in which workers are sickened or killed would help prevent future silicosis cases in this workforce.

The identification of 52 cases in California[1] alone suggests there are hundreds of these cases across the country, yet few cases have been reported elsewhere. Physicians asking patients about current and past workplace exposures and informing a national occupational disease surveillance program could help address this problem. Clinicians reporting lung disease cases that may have been associated with or exacerbated by workplace exposures could alert public health authorities to the existence of establishments where other workers are being sickened, helping to prevent future cases.

In 1992, Donald Millar, MD, MPH, then Director of the National Institute for Occupational Safety and Health (US Centers for Disease Control and Prevention), called silicosis an "occupational obscenity."[5] It remains even more so today.

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Published Online: December 18, 2023. doi:10.1001/jamainternmed.2023.6629

Conflict of Interest Disclosures: Dr Wagner reported serving as a part-time intermittent expert for the US Department of Labor and grants from the McElhattan Foundation during the conduct of this study. Dr Michaels reported grants from McElhattan Foundation during the conduct of the study.

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In Reply We thank Wagner and Michaels for their thoughtful comments regarding the recently reported resurgence of silicosis among engineered stone workers in California, many of whom had severe disease.[1] The correspondents highlight the tragic and preventable nature of these cases, and Occupational Safety and Health Administration enforcement constraints from severely limited resources and inadequate penalties for violations.

In addition to compliance with and enforcement of regulatory standards, medical surveillance of engineered stone workers is urgently needed, as well as public health reporting of cases of silicosis. A recent subsample analysis of the California silicosis cases found that cases identified through active medical surveillance and public health outreach had less severe, earlier-stage disease than cases identified passively through hospital discharge data.[2] That analysis also highlighted the critical importance of connecting public health reporting of occupational diseases by clinicians with workplace exposure monitoring and surveillance efforts. The identification of the surveillance cases was prompted by the reporting of an index case to the California Department of Health, which then led to an inspection of the patient's workplace, active medical surveillance of coworkers, and outreach to similar workplaces.

Widespread medical surveillance for early disease detection among engineered stone workers, as has been instituted in Australia,[3] is greatly needed. Given that sales of engineered stone products are expected to increase 10-fold in the US from 2009 to 2029, a nationwide system for reporting silicosis is imperative.[4] Unfortunately, both medical surveillance and a reporting system will be challenging to implement in the US.

Therefore, it is important, as Wagner and Michaels emphasize, that primary care clinicians and pulmonologists play an active role in identifying patients with silicosis. More than half of the 52 cases reported by Fazio et al[1] were initially misdiagnosed. Similarly, a recent study[5] showed that fewer than half of coal miners with the most severe form of coal mine dust–related lung disease had pneumoconiosis listed as a contributing cause of death on their death certificate. Clinicians can learn about patients' workplace exposures by asking about their current and former work, their place or type of employment, and work activities. Employment duties such as cutting and polishing stone should raise concern for silicosis.

In addition to diagnosing and reporting suspected cases to public health officials for workplace follow-up, clinicians should help patients in vulnerable situations to access available benefits. More than 50% of the individuals reported by Fazio et al[1] had no or limited medical insurance, and only 13% had workers' compensation insurance. Clinicians also need to address recommendations for worker protections and help guide workers through medicolegal processes, preferably facilitated by referral to an occupational medicine specialist. Pending widespread regulatory compliance, effective use of engineering controls, and/or product substitution to reduce workplace exposures to silica, astute clinicians may be the best hope for engineered stone workers who develop silicosis.

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Published Online: December 18, 2023. doi:10.1001/jamainternmed.2023.6635

Conflict of Interest Disclosures: None reported.

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Workers at Risk of Silicosis—Ongoing Overexposure and Lack of Medical Surveillance

To the Editor The Original Investigation by Fazio et al[1] together with the Editorial by Hua et al[2] are humbling reminders that occupational exposure to respirable crystalline silica continues to affect worker health. The US Occupational Safety and Health Administration (OSHA) addresses these exposures through enforceable standards. In 2016, OSHA issued revised standards on respirable crystalline silica exposure for general industry[3] and for construction[4] that define a permissible exposure limit (PEL) as 50 μg/m^3 for an 8-hour time-weighted

average (TWA). The action level is half the level of the PEL, and frequent exposures greater than the action level may trigger a radiographic surveillance requirement. Health care practitioners release the radiographic findings to the employee only unless the employee agrees to release a positive silicosis diagnosis to the employer.

OSHA has also implemented a National Emphasis Program on Respirable Crystalline Silica to better target high-hazard industry sectors where silica exposure is a risk. Approximately one-quarter of the silica samples obtained from January to December 2022 in workplaces that produce engineered or natural stone slabs exceeded the PEL, with the highest measured 8-hour TWA at approximately 20 times the permissible level. Nearly two-thirds of the employers with recorded overexposures had not conducted medical surveillance.

These data suggest that in the 7 years since promulgation of the 2016 standards,[3,4] employees performing work with engineered stone have continued to be overexposed to silica. Primary care practitioners may be the first access for medical support among worker populations that are vulnerable to exposure, especially those who work in small facilities. Any clinician may refer an employer with silica exposure risks to OSHA without releasing the patient's silicosis diagnosis to the employer. The clinician should also inquire about patients' prior places of employment and make enforcement referrals by calling a local OSHA office or the national number (800-321-6742) or by filing a safety and health or whistleblower complaint online.

Given that employees may refuse to release even simple silicosis diagnoses to an employer for fear of retaliation, OSHA whistleblower protections prohibit employer retaliation.[5] If a worker has reason to believe they experienced adverse action associated with filing a complaint, they may file a whistleblower complaint within 30 days.

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Published Online: December 18, 2023. doi:10.1001/jamainternmed.2023.6632

Conflict of Interest Disclosures: None reported.

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In Reply We agree with the comments from Wagner and Michaels regarding prioritization of disease prevention through increased resources for the federal Occupational Safety and Health Administration (OSHA) inspections.[1] Additionally, employers have a responsibility to uphold and implement the requirements of the 2016 Respirable Crystalline Silica Standard,[2] which Hodgson and Smith of OSHA detailed in their letter.

Hodgson and Smith state that the OSHA National Emphasis Program on Respirable Crystalline Silica in 2022[3] provided clear evidence of exposure above the permissible exposure limit (PEL) among one-quarter of those sampled. Similarly, analysis of data from the California Special Emphasis Program (occupational exposure to respirable crystalline silica, cut stone, and stone product manufacturing) showed that from January 2019 to February 2020, 25% of individuals and 51% of shops sampled had exposures above the PEL.[1] This suggests that the existing 2016 OSHA silica standard[2] is not preventing overexposure. In recognition of this and the increasing number of cases of silicosis in the industry, the California Occupational Safety and Health Standards Board voted to enact an Emergency Temporary Standard for silicosis, after a petition submitted from the Western Occupational Environmental Medicine Association.[4] The draft Emergency Temporary Standard includes a set of trigger tasks that requires provisions of the silica standard without the need for air sampling, eliminates dry cutting, and requires use of powered air-purifying respirators.

We would also like to applaud the expansion of a National Emphasis Program announced on September 24, 2023.[3] This will require 8 OSHA regions to perform inspections of a minimum of 5 stone-cutting establishments per region during the next 12 months. Systematic data collection and analysis of this program will be critical to help understand the magnitude of the problem nationally.

We agree with Wagner and Michaels that identifying 52 cases is the tip of the iceberg and suggests many more cases are occurring nationwide. We agree that primary care and emergency practitioners are likely to be the first to encounter at-risk workers, and that they should consider a diagnosis of silicosis in the appropriate setting and report cases to their local public health officials and OSHA. Additionally, we believe that California's policy of extending Medicaid coverage to undocumented immigrants has been imperative in allowing affected workers to access medical care, and therefore, for clinicians to identify cases.

To support clinician reporting in California, the California Department of Public Health (CDPH) disseminated a health advisory through the California Health Alert Network, informing public health officials and physicians statewide about the issue.[5] The CDPH has also strengthened its silicosis surveillance system by including an online case reporting form for practitioners and using the Reportable Conditions Knowledge Management System to identify cases through electronic medical records across the state. Using these methods,

the CDPH has identified more than 80 cases of silicosis among engineered-stone workers across the state to date. State public health departments should consider the development of silicosis surveillance systems similar to that of California.

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Published Online: December 18, 2023. doi:10.1001/jamainternmed.2023.6626

Conflict of Interest Disclosures: None reported.

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Lifetime Gained With Cancer Screening

To the Editor We read the article by Bretthauer et al[1] with interest. Of late, there is intense focus on the merits of cancer screening and the need to effectively deploy cancer screening programs in diverse populations. This article advances the discussion on this important and timely topic.

We applaud Bretthauer et al[1] for translating meta-analysis-derived relative risks of all-cause mortality associated with cancer screening into absolute effect estimates (ie, lifetime gained), which can be more readily understood by clinicians and patients when considering potential risks and benefits of cancer screening. However, we were concerned with the quality of reporting in this meta-analysis. Bretthauer et al[1] did not report registering their review protocol. Furthermore, they did not perform a risk of bias assessment on all the trials included in their review, nor did they use GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) to rank the evidence and inform our understanding of its certainty.[2]

The Special Communication by Welch and Dey[3] addresses another critical point: the need to perform sample-size calculations when making definitive conclusions based on study results. We also agree with a question that Bach[4] highlights in an essay regarding the limitations of the study by Bretthauer et al.[1] Was the meta-analysis conducted sufficiently powered to support the conclusions?[4] However, we disagree with Bach's statement that meta-analyses "don't have a specific power."[4] Similar to determining the sample size needed to detect a statistically or clinically significant difference between intervention effects in a randomized trial, it is possible to calculate the minimum sample size needed to detect a statistically or clinically significant difference between intervention effects in a meta-analysis (ie, required information size), thus arguing against a falsely positive or negative result.[5]

Bretthauer et al[1] cannot conclude with certainty that a method of cancer screening is ineffective in reducing all-cause mortality if the meta-analysis does not meet the required information size. If the required information size was not met for meta-analyses of treatment effects for 1 or more cancer screening methods, this would also support the assertion that more randomized trials are needed to demonstrate the efficacy of cancer screening programs. Is it possible for Bretthauer et al[1] to derive required information sizes to inform our understanding of whether their meta-analyses included sufficiently large sample sizes to avoid making potentially spurious conclusions? We look forward to a response from Bretthauer et al to clarify these points.

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Published Online: January 2, 2024. doi:10.1001/jamainternmed.2023.7072

Conflict of Interest Disclosures: None reported.

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To the Editor During the past 25 years, life expectancy of the world population increased by more than 5 years.[1] The largest improvements were observed among low-income countries, according to public health measures. In high-income countries, the increase amounted to approximately 3.5 years or approximately 1300 days. This tremendous achievement oc-