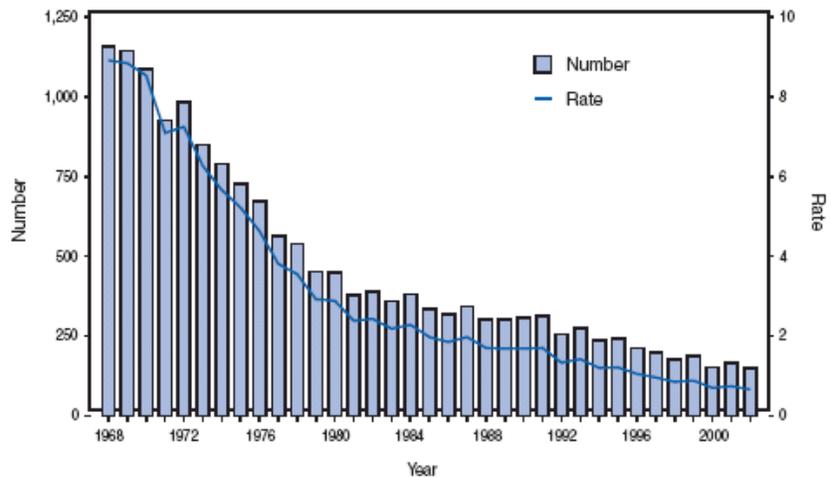


In a [public comment](#) filed on the Occupational Safety and Health Administration's (OSHA's) proposed standards for [occupational exposure to respirable crystalline silica](#), Professor [Andrew Morriss](#) and I recognize that OSHA faces multiple challenges in devising a regulatory approach that will meet its statutory goal of reducing significant risk. However, we find that the greatest challenge to reducing risks associated with silica exposure is not lack of will (on the part of employers or employees) but rather lack of information. [Our analysis](#) concludes that OSHA's proposed rule will contribute little in the way of new information, and indeed, may stifle the generation of knowledge by precluding flexibility for experimentation and learning.

OSHA's conclusions that 1) crystalline silica poses a significant risk, and 2) its proposed controls will substantially reduce that risk are based on data that are at least a decade old, and ignore evidence that adverse health effects from silica exposure have declined dramatically over the past 45 years. ([See Center for Disease Control figure](#))

FIGURE 1. Number of silicosis deaths and age-adjusted mortality rate*, by year — National Occupational Respiratory Mortality System, United States, 1968–2002



* Per million persons aged ≥ 15 years.

Contrary to these observed trends, OSHA's determination of the significance of the risk and its estimates of the risk reduction potential of its proposed regulation implicitly assume that exposure and health effects would remain as they were over a decade ago in the absence of OSHA's proposed regulation. Not only is this analytical approach certain to overstate the risk-reduction benefits attributable to the rule, but it misses opportunities to identify and encourage successful risk-reducing practices. Despite using an unrealistic baseline assumption of no further reduction in risk absent the rule, OSHA's estimated benefits are less than what would be projected if past trends were simply to continue.

Before OSHA can properly dispatch its statutory authority to identify and reduce significant risks, it must first understand [what forms of silica lead to these risks](#). Further, to devise solutions



to address remaining risks, OSHA's analysis should at least recognize the observed declines in silicosis mortality over the last several decades, and work to understand the reasons behind these encouraging trends.

To address the information problem that is at the root of continued risks from silica exposure, OSHA should follow the guidance of President Obama's [Executive Order 13563](#) and devise approaches that provide information, maintain flexibility for experimentation, and encourage the generation of knowledge.

OSHA's permissible exposure level (PEL) and engineering controls give a false impression of precision, and OSHA's analysis assumes that the controls it has specified will result in compliance with the new PEL. These are merely assumptions, however, as OSHA is unable to connect risk reductions to specific requirements. Perhaps more important, such standards provide no incentive for increasing knowledge about silica hazards in the workplace; indeed, they may even discourage it by focusing attention on compliance with the standard rather than on harm reduction. Given the [costs and time involved](#) in changing OSHA regulations, the design-based standards are unlikely to encourage investigations by private parties into developing information as to the relative hazard of different forms of silica, or practices likely to reduce risks.

Our comment encourages OSHA to pursue two of the regulatory alternatives it considered in the preamble (Regulatory Alternative #7 and #9) because they are more consistent with the direction in [Executive Orders](#) to "specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt." OSHA's **Regulatory Alternative #7** "would eliminate all of the ancillary provisions of the proposed rule," so that the PEL would serve as a performance standard, and allow employers and employees to determine the most effective way to meet that standard. OSHA's **Regulatory Alternative #9**, which would phase in a more stringent standard over time as more information becomes available, could have benefits not only in reduced compliance costs, but in knowledge generation and sharing.

The comment concludes that, regardless of the approach OSHA takes in the final rule, it should lay out a clear plan for conducting retrospective review, as required by Executive Orders 13563 and [13610](#), including how it will measure exposure and risk, and how it will evaluate the effectiveness of the different components of the final rule.

