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Black lung disease continues to surge in Appalachia; new research suggests why

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New mining methods that churn up silica-laden rock are likely responsible for the surge of black lung disease that has afflicted hundreds of miners across Central Appalachia in recent years, according to new research presented at the American Thoracic Society's annual meeting this week.

The research provides further evidence that new mining methods used to extract thin seams of coal have led to the surge of black lung in Eastern Kentucky, southwest Virginia and other parts of Appalachia.

It also further confirms that coal companies and federal regulators have not adequately created or enforced silica dust regulations, said Robert Cohen, the co-director of the Black Lung Center of Excellence, who led the new research project.

"Our work preventing this entirely preventable disease is not succeeding," Cohen said. "Clearly we have more work to do."

Black lung is incurable and often leads to an early death. The disease is caused by breathing in dust created during the mining and transportation of coal.

While some research has found evidence of the detrimental health impacts of silica dust, the new research "is probably stronger evidence than we've had to date that silica may be driving a large portion of (black lung)," Cohen said.

Many of the larger, more-accessible coal seams in Eastern Kentucky and other coal-producing regions of Central Appalachia have already been mined, leaving miners to target thinner seams. To access what coal remains, miners must cut through more silica-containing rock.

That silica dust, rather than the coal dust, has become the lead cause of black lung in recent years, according to the new research, and existing regulations have not proven effective in limiting miners' exposure to the deadly silica dust, Cohen said.

"This adds additional weight to the idea that we really have to be watching silica and enforcing silica very carefully," Cohen said.

Cohen said the new research creates more incentive to quickly develop real-time silica dust detectors for miners.

He also advocated that federal regulators should give silica its own regulatory designation, rather than rolling it into the existing coal dust rule.

In 2014, the U.S. Department of Labor's Mine Safety and Health Administration passed new regulations aimed at limiting the amount of dust miners are exposed to by providing full-shift dust sampling and limiting the acceptable level of dust in the air.

Silica is regulated by the 2014 MSHA rule, but it is not given its own, separate standard.

The research, presented in Dallas on Monday, consisted of two studies.

The first examined tissue samples from 376 dead coal miners who participated in the National Coal Workers Autopsy Study.

If found that the proportion of black lung primarily caused by silica increased from 24% before 1990 to 40% after 1990. Another 30% of cases were caused by a mix of coal dust and silica dust.

The study was the first to use tissue samples from the National Coal Workers Autopsy Study to report trends on the proportion of miners dying from black lung.

The second study examined cause of death data from the National Death Index for more than 34,000 miners, and found that a higher percentage of miners are dying from black lung than in previous generations.

A greater number of younger miners are also being afflicted with the disease, the research found.

Black lung has contributed to the deaths of more than 76,000 miners since 1968, and while just 5% of miners had black lung in the late 1990s, that rate jumped to more than 20% in 2017, according to a National Institute for Occupational Safety and Health study published last year.

In 2016, NIOSH published a study showing that a single radiologist identified 60 current and former miners, most of them from Eastern Kentucky, between January and August 2015 who had the most severe form of black lung, called progressive massive fibrosis. Just 31 cases were reported nationwide between 1990 and 1999.

Meanwhile, the tax that funds the Black Lung Disability Trust Fund, which helps pay disabled miners and widows for health care and can provide a stipend, was slashed by 55 percent.

Experts say the tax cut—the tax is paid by coal companies per ton of coal they produce—could lead the fund to insolvency.

Some lawmakers, including Sen. Joe Manchin, D-W.Va., have called for the tax to be reinstated to its full value.

Last year, former Kentucky coal miner Kenny Fleming told the Lexington Herald-Leader the tax cut would lead to "catastrophe" for miners like him, who are no longer able to work because of black lung disease.

"I doubt that very many people would come out of it with any semblance of a normal life," he said.