

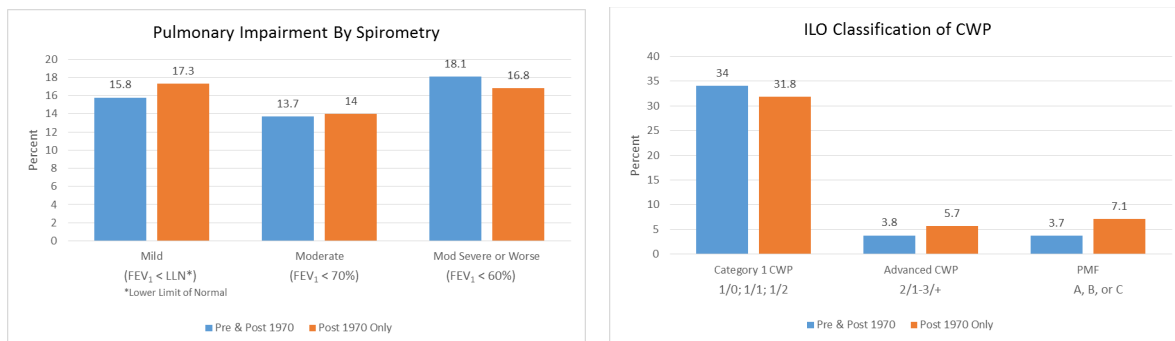
**Spotlight Topic:** University of Illinois researchers use surveillance, federal benefits, and state workers' compensation data sets to study cardiopulmonary disease in miners.

**Alpha Foundation Grant AFC113-15:** Clarifying Distribution, Trends, and Determinants of Adverse Health in United States Miners: Exploration and Integration of Existing Data Systems

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Injuries and fatalities from mining safety failures are dramatic and highly visible. In contrast, morbidity and mortality from mining-related chronic health disorders can be more difficult to identify and affect a much larger portion of the mining population. This study evaluated data from the federal Black Lung Benefits Program (BLBP), the NIOSH Coal Workers' Health Surveillance Program (CWHSP), national population-based surveys, the Mine Safety and Health Administration (MSHA) and state workers' compensation data.

**BLBP:** This analysis of claims filed between 2000 and 2013 revealed that average lung function in claimants improved since the passage of dust control regulations in 1970, but during the same period, the prevalence of severe pneumoconiosis, including progressive massive fibrosis, appears to have worsened, Figure 1.



**Figure 1.** CXR and spirometry results among BLBP claimants, age 49 to 60 years old, who worked only since the enactment of the 1970 dust rule compared with those who worked before and since 1970.

**CWHSP:** This analysis of surveillance data showed a relationship between the category of simple pneumoconiosis on chest radiographs and declines in lung function, indicating that simple pneumoconiosis is not a benign condition.

**National and State Surveys:** These data showed high rates of smoking and other forms of tobacco use in extraction workers compared to other workers, an important consideration in these workers exposed to occupational respirable dust.

**State Workers' Compensation:** Analysis of data from Illinois showed a higher rate of workers' compensation claims for cardiopulmonary disease in miners compared to non-miners. A linkage between MSHA Part 50 program reports of injury and illness and Illinois Workers' Compensation Commission data showed that claims for all injuries and illness were underreported to MSHA, and that chronic respiratory disease and illness were much less likely to be reported to MSHA than claims for injury. There are clear opportunities for improvements in the regulatory requirements and/or program training and enforcement.

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