Project Title: Clarifying Distribution, Trends, and Determinants of Adverse Health in United States Miners: Exploration and Integration of Existing Data Systems

Organization: University of Illinois at Chicago

Partnerships: West Virginia University School of Medicine
National Jewish Health, Division of Environmental and Occupational Health
Rutgers Robert Wood Johnson Medical School
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Focus Area: Health

SYNOPSIS

Problem Statement and Justification: Miners in the United States continue to suffer from an excess of chronic respiratory disease as well as other adverse health effects resulting from their occupational exposures. Although acute injuries and fatalities from mining safety failures are easily recognizable, disease and death from mining-related chronic health disorders are more difficult to identify and affect a much larger portion of the mining population, and cause substantial impairment, disability, and mortality. Surveillance and research programs are urgently needed to elucidate the impact of the broader spectrum of respiratory disease, including pneumoconiosis and chronic obstructive pulmonary disease, and to provide information on the determinants of cardiovascular disease among all U.S. miners.

Impact of the Research: This research will provide an accurate description of how existing data systems can be used and enhanced to develop interventions to improve miners' health. The results of this work will be disseminated to stakeholders to develop short and long term recommendations to improve miner health through enhanced disease detection, prevention and health promotion. Recommendations will be made to improve the public health utility of data from clinics that provide primary and specialized care to miners. We will provide information to the mining industry and mining community health programs regarding the prevalence of CVD and obstructive lung diseases that can guide interventions to prevent those disorders. Finally, these efforts will lay the groundwork for on-going targeted research into the health risks faced by miners and how these risks can be optimally addressed and controlled.

Objectives and Research Approach: Epidemiologic methods will be used to analyze datasets from multiple agencies and organizations and integrate these data to document determinants of miners' risk for respiratory and cardiovascular disease. The data sets include: National Institute for Occupational Safety and Health, Division of Coal Mine Workers Compensation and Mine Safety and Health Administration of the United States Department of Labor, United Mine Workers of America Health and Retirement Funds, National Coalition of Black Lung Clinics, and Worker's Compensation Data from the States of Illinois, Colorado, and West Virginia. The datasets will be linked to provide enhanced information for enumerating disease prevalence and risk factors. Pilot analyses will be conducted using the most promising data sources and data linkages to further understand how these data can be used to plan and evaluate specific interventions. The approaches taken to disseminate the results will focus on providing a scientific foundation for specific actions that can directly improve disease prevention and health promotion in miners as well as recommendations that will improve future collection of miner health data.