

Grant Number: AFCTG22R2-158

Title: Mental Illness in U.S. Coal Miners: A collaborative approach to understand risk factors and prevalence, while ensuring those suffering get the care they need

Organization: University of Illinois, Chicago

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Partnerships: University of California, San Francisco, University of Virginia, Stone Mountain Health Services, Valley Health System, Cabin Creek Health Center, Big Sandy Health Care, Shawnee Health Services, Owensboro Health, Miners Clinic of Colorado

Focus Area: Injury and Disease Exposure and Risk Factors: Surveillance and Epidemiology Methods

SYNOPSIS

Problem Statement: It is widely recognized that mental and physical health are vitally important and interconnected components of overall health. Poor mental health increases the risk of morbidity from many chronic physical diseases including heart disease, chronic obstructive pulmonary disease, and stroke. Furthermore, those suffering from chronic physical illnesses are at increased risk of developing poor mental health. Despite this knowledge, the vast majority of research and clinical care for coal miners has historically focused on physical health, with far less attention paid to mental health.

A study published by our group in 2021 suggests an urgent need to expand screening for mental health disorders in coal miners throughout the United States (U.S.). In this study of 2,808 current and former coal miners seeking care in one clinic in Virginia, symptoms of depression (37%), suicidality (11%), anxiety (39%), and post-traumatic stress disorder (PTSD) (26%) were highly prevalent. The prevalence of mental health disorders among U.S. coal miners more broadly remains unknown, as do potential risk and protective factors.

Research Approach: We will estimate the prevalence of mental health disorders including depression, anxiety, PTSD, and substance misuse among active and former U.S. coal miners seeking care at Health Resources and Services Administration (HRSA)-funded Black Lung clinics across the country using validated screening tools. We will compare rates of mental health disorders in U.S. coal miners to a comparison population of demographically matched non-miners who seek care at the same partnering clinics.

Through a sequential mixed methods approach, we will identify risk and protective factors that impact mental health in U.S. coal miners. Specifically, we will establish the demographic, socioeconomic, occupational, and clinical variables that are protective of, or risk factors for mental health disorders in miners using multivariable regression models. Preliminary findings will guide a qualitative study to better understand the lived experience and perspective of miners who face unique challenges in achieving and/or maintaining positive mental health. Because of the established, trusted clinical relationships with coal miners across the country, combined with the sensitive nature of mental health and healthcare, the HRSA Black Lung Clinics serve as an ideal setting in which to conduct this study.

Impact :Our proposal brings together a diverse group of black lung clinics across the country that has a long history of collaboration to promote and protect the health of miners, along with an interdisciplinary team of investigators. With the results of the proposed study, we will be well-positioned to take action to improve a previously neglected but critical aspect of the well-being of U.S. coal miners: mental health. The proposed study would be the first to provide an estimate of the prevalence of mental health disorders among both active and former coal miners throughout the U.S., including depression, anxiety, PTSD, and alcohol and other substance misuse. This proposal will also lead to a better understanding of the modifiable determinants that protect against or increase risk for mental illness in U.S. miners. It is through this understanding that subsequent interventions can be designed to 1) reduce the burden of mental illness currently suffered by U.S. miners; and 2) prevent the development of mental illness in coal miners in the future. Through a comprehensive characterization of mental health disorders in U.S. coal miners, the results of our proposal will inform healthcare and research organizations, government agencies, industry, labor, and advocacy groups how they might intervene to protect and improve the mental health of miners.