

**Grant AFC719-14:** Evaluating a Virtual ‘Community of Practice’ in Pneumoconiosis Mortality Hotspots in the United States

**Organization and Principal Investigator:** University of New Mexico (Akshay Sood)

**Focus Area:** Injury and Disease Exposure and Risk Factors

**Priority Area:** Other

**Problem Statement and Research Approach:** The recent re-emergence of pneumoconiosis or mining dust-related lung diseases in miners requires innovative prevention and therapeutic strategies in the pneumoconiosis mortality hotspot regions in the U.S. Since most miners live in rural communities with a dearth of skilled expertise in mining-related diseases, the education and mentoring of professionals in rural areas involved in the care of miners is a first step. The Miners’ Wellness TeleECHO (Extension for Community Health Outcomes) Clinic at the University of New Mexico provides structured longitudinal tele-mentoring to rural clinical providers, respiratory therapists, benefits counselors, attorneys, and home health company professionals, creating a virtual ‘Community of Practice’. This approach towards miners has, however, not been evaluated, constituting a critical gap in our knowledge. There is a need to correct this gap in knowledge because without doing so, evidence-based rural interventions for providing complex interdisciplinary care for miners would likely remain beyond reach.

The Miners’ Wellness TeleECHO Clinic’s long-term goal is to improve the quality of care delivered to miners in the pneumoconiosis mortality hotspot regions in the U.S. through structured longitudinal tele-mentoring of teams of rural professionals caring for miners, thereby creating a virtual community of practice. Our objective is to evaluate outcomes related to our tele-mentoring intervention. Our central hypothesis is that participation in the tele-mentoring program improves professional participant and group characteristics. Our hypothesis is formulated on the basis of our own preliminary data and studies of other chronic diseases using the well-studied and –replicated evidence-based ECHO model 3. The rationale for the proposed research is that, once this intervention is proven to be effective, it would result in a new innovative approach towards building rural multidisciplinary teams of professionals (or communities of practice) that can provide high quality care to miners regionally, nationally and globally.

**Specific Aims:** We plan to test our central hypothesis and, thereby, accomplish our overall objective for this project by pursuing the following two specific aims:

- Specific Aim 1: To examine the impact of teleECHO participation on professional participant characteristics, such as knowledge, self-efficacy, and professional isolation. Hypothesis 1A: TeleECHO participants report improvement in knowledge and self-efficacy and reduction in professional isolation at six- and twelve- months compared to baseline. Hypothesis 1B: TeleECHO participants have greater knowledge and self- efficacy, and lower professional isolation than non-participants at the twelve month study time point.
- Specific Aim 2: To examine the impact of teleECHO participation on change in professional group characteristics, including collective efficacy, network distance, and sharing of expertise during sessions. Hypothesis 2: TeleECHO participation improves collective efficacy, decreases network distance, and identifies specific qualitative themes and patterns on sharing of expertise between participants.

