CS-CASH FY04- 2014-2015 Pilot Projects

Title: Mechanisms Underlying Inhalant Agriculture Organic Dust Exposure-Induced Systemic Bone Loss

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EXECUTIVE SUMMARY

This project will help identify mechanisms governing how complex organic dust induced airway injury induces systemic bone loss. These studies could lead to new prevention and treatment strategies for at-risk occupational workers (NORA Strategic Goal-5-Agriculture Health). Chronic inhalation of organic dusts from agriculture environments causes significant airway inflammatory diseases, and agriculture work is associated with high lifetime prevalence for musculoskeletal disorders. Human evidence supports that airway injury/inflammation significantly contributes to debilitating systemic skeletal diseases such as osteoporosis and fracture, the lung-bone inflammatory axis. Recently, we have expanded our animal inflammatory lung injury model to understand the systemic consequences of inhalant exposures on bone homeostasis. Importantly, we uncovered significant bone loss in mice following inhalation treatments with organic dusts by state-of-the art micro-CT imaging. We are now poised to delineate the potential mechanisms mediating the crosstalk between

Title: Health & Job Hazards of Latino CAFO Workers in Missouri

PI: Athena Ramos, MS, MBA, CPM
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Executive Summary
Agriculture is one of the most dangerous industries in the United States. Concentrated animal feeding operations (CAFOs) make up an increasing number of farms across the country and in the Midwest. We seek to systematically understand and describe occupational risks; CAFO job processes among the phases of hog production including: sows, nursery pigs, and finishing; and explore opportunities for safety and health educational interventions through the identification of perceptions and acceptance of occupational risk, health effects, healthcare needs, and health beliefs among CAFO workers and their families. We will conduct a prospective panel study with immigrant Latino hog CAFO workers and their families in Missouri and track them over the course of one year. Due to the technological innovation in agriculture and changing demographics of the agricultural workforce, we believe that this project is highly applicable to the CS-CASH service region and to developing knowledge to further CS-CASH education and prevention missions.

Title: Best Practices for Range Bison Herds

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Executive Summary:
Bison herds are being re-established on Indian lands to promote cultural enhancement, spiritual revitalization, ecological restoration and economic development. Handling bison is hazardous to workers.
The working hypothesis for this project is that worker safety risks exist when bison are handled on tribal property and these safety risks may be mitigated by employing best practices.
We propose the following specific aims:
Specific Aim 1 - Characterize hazards and risks to worker health and safety while handling bison under reservation field conditions.
Specific Aim 2- Implement intervention strategies to mitigate worker safety risks by providing best practices for range bison herds.
Specific Aim 3 - Assess outcomes and evaluate impacts of intervention strategies.
Insights gained from this work will assist bison producers, both tribal and non-tribal, in implementing best management practices to enhance bison worker safety. The information will also be used as preliminary data for a larger multi-year CS-CASH project.

Title: A vision for a National Sustainable Certified Safe Farm Intervention Program

A proposal submitted by the Rural Health Clinic of Greater Johnson County
Kelley J. Donham, Vice President

EXECUTIVE SUMMARY
The Certified Safe Farm (CSF) is an evidence-based multimodal total worker health program that has resulted in long term reductions in medical costs, increased use of PPE, decreased occupational respiratory illnesses, and remediation of farm hazards. Deriving some from concepts originating in Scandinavia, the CSF was founded in Iowa, now translated to Wisconsin, North Carolina and Nebraska. Currently is no coordination exists among these programs. Our consultants from agribusinesses have advised us that to achieve national sustainability CSF must be consistent in programing and quality across state lines. Therefore, we envision developing a National Sustainable Model CSF Program by establishing a coalition of stakeholder's active CSF programs. We will work by consensus to develop processes to attain consistency, quality, and coordination across state lines. Further we will seek methods to account for regional/local variances in CSF programs as necessary and market the program to potential agribusiness partners.

Title: Lungs for Life
Project Director: Carolyn Sheridan, Agrisafe Clinical Director
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Summary
The AgriSafe Network is a national non-profit organization representing rural health care providers, nurses, doctors, researchers, and other professionals who strive to reduce health disparities among farm families. AgriSafe is the recognized leader in the field of agricultural occupational health care. Lungs for Life, is specifically designed to prevent chronic debilitating lung illness and disease by focusing on the respiratory health of the agricultural population in Western Iowa and Eastern Nebraska. The aim of this proposal is to develop standards of clinical practice for a respiratory program (Lungs for Life) that has intrinsic value to the agricultural community. Once the clinical standards are established, AgriSafe will complete phase two of this proposal. The second phase includes the development and testing of a Lungs for Life toolkit for health care providers and Ag producers. This toolkit will include information on lung function screening, basic patient education, Personal Protective Equipment (PPE) selection and respirator fit testing.