# Health Analytics Fellowship

Center for Workers' Compensation Studies (CWCS)
National Institute for Occupational Safety and Health, Cincinnati, Ohio

**BACKGROUND** –The mission of the CWCS is to support the use of workers' compensation data to improve workplace safety and health. Workers' compensation (WC) claims may be filed after a worker is injured or becomes ill due to their job. Claims include the nature of injury/ illness, how the injury/ illness occurred, the type and cost of medical care received, cost of partial wage replacement, the number of days off work, and injured worker characteristics (occupation, age, sex, time with the employer, etc.). WC data is the largest source of occupational injury information in the United States with millions of claims in state databases. This information has tremendous potential for prevention purposes, but remains largely underutilized. See the CWCS Website: www.cdc.gov/niosh/topics/workerComp/CWCS/.

**DUTIES** – The Health Analytics Fellow with be responsible for the following duties:

- Investigate and develop methods for data visualization, including WC claim benchmarking dashboard systems (to display claim trends by industry, occupation, employer size, geographical area, cause, part of body, diagnoses, and worker characteristics) using Microsoft SQL Server Analysis Services (SSAS), SAS, R, and other technologies including commercial dash boarding software (such as Tableau, Pyramid etc.). The aim is to optimize how vast workers' compensation datasets can be viewed to understand patterns for prevention purposes. This includes enabling insured employers to use data to benchmark their safety and health performance versus industry peers and develop prevention plans. The data will also be used to help direct consultation services, develop new safety/health interventions, and focus future research.
- Develop predictive analytic approaches to identify employer-level and claim-level factors (e.g. claim causes, diagnoses, and treatments) associated with increased future WC claim frequency and severity
- Apply machine learning techniques to free-text narratives to optimize auto-coding programs for claim causation, industry, and occupation that can be shared among states and other partners
- Assist in implementing current architecture and maintaining the CWCS database, data warehouse, CWCS cubes, other business intelligence tools, and future databases

**SKILLS AND ABILITIES** –The following background is preferred:

- Experience in data visualization approaches
- Excellent analytic skills including predictive analytics, and a working knowledge of statistical software (such as SAS)
- Experience with Microsoft office tools - Excel, Access
- A technical foundation in IT, database architecture, data warehouses
- Interest and experience in occupational safety and health
- Excellent written and verbal communication skills

A doctoral or master's level degree in Health/Biomedical Informatics, Computer Science, Information Science, Information Systems, or a closely related field is preferred.

This is a two-year renewable fellowship. Anticipated start date is 10/2016. Salary and benefits are commensurate with experience. NIOSH is an equal opportunity employer. Non-U.S. citizens are eligible to apply. Contact cwcs@cdc.gov for more information.