



## NIOSH Industry and Occupation Computerized Coding System



### Project Goal:

*The overall goal of this project is to develop a computer system that will efficiently, accurately, and uniformly translate industry and occupation (I&O) narratives found on employment and health records to standardized I&O codes.*

### Significance and Impact

Public health surveillance of occupational illness, injury and hazards is the backbone of NIOSH injury and illness prevention efforts. There is a critical need to develop sensitive and timely surveillance systems to collect information on work-related illness, injury, disease, and exposure; analyze the data; disseminate the data and research findings; and establish research and prevention priorities, including evaluation of the effectiveness of intervention activities. An industry and occupation (I&O) computerized coding system will permit more rapid translation of I&O data thus permitting more timely evaluation of emerging trends, changes in health and disease status, and exposure parameters.

- Will help strengthen the capability of NIOSH, states, and others to collect and use I&O data for occupational safety and health research.
- NIOSH currently maintains several databases containing I&O information. The need to efficiently code (or recode through crosswalking) these databases is critical to meeting the goals of the NIOSH surveillance programs.
- The high cost and labor intensive process of manually coding I&O information into a standardized set of codes often prohibits many organizations from fully utilizing the wealth of information available for occupational health surveillance and research. The development of an I&O computerized coding system will enable researchers and others to achieve savings in time and money when performing I&O coding.
- States currently lacking funds to code I&O will have a tool to support this effort. NIOSH will benefit from an increased number of states coding I&O which will provide more data for existing NIOSH state-based surveillance databases such as the National Occupational Mortality Surveillance (NOMS).
- Will improve uniform coding of I&O text. Current coding approaches often differ and are dependent on the level of coding experience and training.
- Customers of the I&O computerized system will include state vital statistics offices and health departments, insurance companies, cancer registries, hospitals, universities, workers compensation organizations, other federal agencies, and other organizations that utilize I&O data.



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### Project Background:

- ◎ 1998 NIOSH released the Standardized Occupation and Industry Coding (SOIC) system
  - Codes I&O narratives to the Census 1990 classification scheme.
  - Still used by some state vital statistics and health departments.
- ◎ 2002 NIOSH developed an upgraded version of the SOIC system
  - Enabled coding using the Census 2000 I&O classification scheme.
  - NCHS tested and identified a series of major coding issues.
  - Constella Group analyzed the system in 2003 and provided cost estimated and recommendations for needed corrections.
  - The high estimated cost to correct the issues and lack of available funding at the time prevented further work to be performed on the SOIC.
- ◎ FY2006, NIOSH analyzed the feasibility of developing a new I&O computerized coding system using latest technologies.
- ◎ A proposal was submitted for NIOSH funding to development a new industry and occupation coding system.
- ◎ Project was approved in June 2008. Expected timeframe: Oct 2008 – Sept 2012.

### Project Timeline:

#### FY09

Complete System Analysis and Software Requirements Document – May 2009

- Visit three state vital statistic departments, Census, and BLS

Develop first Draft of System Design Document – Dec 2009

#### FY10

Final System Design Document – March 2010

Develop system software and databases

#### FY11

Complete coding and validation of test data (start FY09)

Complete system development and internal system testing

#### FY12

Complete system, user, and training documentation

Complete user testing

Implement via the web



## NIOSH Industry and Occupation Computerized Coding System



### Project Team:

<u>Name</u>	<u>Organization</u>	<u>Role</u>
John Lu	NIOSH	Project Officer, Lead Developer
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Pam Schumacher	NIOSH	I&O Coding Specialists
Jim Walker	NIOSH	Epidemiologist
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Ken Berman	University of Cincinnati	System Engineer Consultant
Daniel Gillman	BLS	I&O Autocoding Consultant

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