

NIOSH Industry and Occupation Computerized Coding System



WestON Meeting

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What is it?

NIOSH Industry and Occupation Computerized Coding System (NIOCCS)

Description

A web-based software tool designed to translate industry and occupation (I&O) text found in electronic records to standardized I&O codes.

Primary System Features

- Automatic coding (autocoding)
- Computer-assisted coding
- Crosswalk coding



Why automate I&O coding ?

Improve Text to Code Translation

- Reduce cost of manual coding
- Reduce coding time
- Increase coding uniformity

Increase the Use of Industry & Occupation Data

- Understand disease/injury trends
- Identify emerging conditions or issues
- Make use of existing data (ex: workers comp.)
- Enhance clinical care of workers (EHR)



System Status

As of September 2014

Usage

Number of user accounts	296
Number of different organizations using NIOCCS	156
Number of records submitted for coding	> 7.5 million

Types of Organizations Using NIOCCS

Federal Government Agencies	9	
State Government Departments	61	33 Total States, 13 Western States
Universities	30	
Cancer Related Organizations	26	
Private Industries	22	
Hospitals and Other Health Organizations	11	
Foreign Country Organizations	4	

Autocoder



- Uses only industry and occupation text fields
- Codes to the Census Bureau I&O Classification System with option to include NAICS & SOC in the output file
- User option to select autocoding confidence level
 - High = > 90% confidence score
 - Medium = > 70% confidence score
- Coding engine:
 - Knowledgebase currently contains 42,740 records
 - Algorithms: Phrase match, Word proximity, weighted word match, n-gram, phonetics match, SQL Full text match
 - Special coding rules



Performance

Average Autocoding Results: Both Industry and Occupation Coded High CL

Data Type	Year 2013	Year 2014 (Jan - Sept)
<u>NIOCCS Internal User Results</u>	60% (Death Certificates) 34% (MESA, REGARDS Survey Data)	61% (Death Certificates) 37% (BRFSS Survey Data)
<u>NIOCCS External User Results</u>		
Death Certificates	64%	64%
Cancer Registries	35%	60%
Surveys	49%	50%
Other	52%	57%
Average of All Data Types	51%	55%
<u>Census Bureau Autocoder</u> American Community Survey <i>* NOTE: Analyzes occ title and job duty text - Presented at the Federal Economics Statistics Advisory Committee Meeting 6/2014</i>	29%	29%

Demonstration



NIOCCS software can be accessed using the following
url: <http://wwwn.cdc.gov/niosh-nioccs/>

Questions?



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