

# Developing questionnaires on underreporting of occupational injuries & illnesses: Results of cognitive testing

Presented by

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# Two Questionnaires

Questionnaires designed for two telephone surveys on the barriers for workers to report occupational injuries /illnesses:

1. Barriers Study: Barriers to reporting [NORA]
2. Congressional Study: Occupational injury and illness underreporting

# Target populations

- employed persons treated in Emergency Departments
  - Barriers Study: work and/or non-work related injuries [src: National Electronic Injury Surveillance System (NEISS-Work)]
  - Congressional Study: work related injuries and illnesses [src: NEISS All Injury Program (NEISS-AIP)]
- age 20-64
- English-speaking
- survey-specific criteria (e.g., type of employment, work days lost)

# Draft questionnaires

Drafts developed by NIOSH through:

- literature review
- subject matter experts
- pre-testing (Barriers questionnaire only) (n=6 workers)

# Questionnaire content

	Barriers to Reporting Study	Congressional Study
Injury/illness characteristics		●
Type of employment	●	●
Employment characteristics		●
ER reporting of current injury/illness	●	●
Work reporting	●	●
Medical coverage and return to work	●	●
History of chronic health problems		●
Hypothetical scenarios	●	
Demographic information (incl. industry & occupation)	●	●

# Cognitive testing

RTI performed two types of cognitive tests:

- Questionnaire appraisals by expert survey methodologists (RTI's Questionnaire Appraisal System – QAS)
- Cognitive interviews with representatives of the target populations

Goal: improve validity and reliability of survey data

# Cognitive interview procedures

- Subjects came from the target populations.
- Survey methodologists conducted the interviews by telephone.
- Interviews examined the thought processes that affect data quality, using "think aloud" and concurrent probing techniques.
- 9 interviews were conducted for each questionnaire.

# Findings: Survey procedures

- contact information often proved unreliable
- very high % of out-of-service phone numbers
- mail contact must be from a recognized source
- people with non-work related injuries are not motivated to participate
- declining response rates to telephone interviews

# Findings: Survey content

Workers were:

- willing to answer questions about their injury experience
- able to recall interactions with emergency room staff
- able to answer questions about their health status and their medical billing

# Findings: Survey content

Respondents were confused about the meaning of some terms, e.g.:

- categorizing whether their ED visit was due to an illness or injury
- company/employer size; type of industry, occupation
- terms of employment (e.g., contract worker)
- “first day they felt well enough to go back to work after their injury”

# Findings: Survey content

Cognitive tests also identified these issues:

- The reference period embedded in questions is a potential source of confusion.
- Asking questions about a future, hypothetical injury confused some respondents; others felt threatened.
- Some people had difficulty reporting their household income.

# Implications

- Administer a chronological sequence of questions to enhance respondent recall.
- Provide definitions in a “Frequently Asked Questions” document for interviewers.
- Provide frames of reference throughout the questionnaire.
- Provide the right amount of information.
- Keep the interview short, and the questions simple!

# Conclusions

- Cognitive interviews are a very valuable method for refining survey questions and identifying potential sources of response error.
- Fact-based questions are preferable to those based on hypothetical scenarios or vignettes.