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

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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

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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)

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Draft questionnaires

Drafts developed by NIOSH through:

- literature review

- subject matter experts

- pre-testing (Barriers questionnaire only) (n=6 workers)

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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)	●	●

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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

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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.

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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

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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

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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"

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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.

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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!

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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.

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