Questionnaire Development and Psychometric Evaluation

RTI has extensive experience with the entire questionnaire development and evaluation process from item generation and cognitive pretesting to psychometric scaling and analysis of questionnaire data. Our unique team of psychologists, survey methodologists, statisticians, and psychometricians specialize in combining the use of cognitive and psychometric methods to develop questionnaires which are both easy to understand and psychometrically sound.

- **Cognitive Laboratory Methods:** Cognitive methods provide important tools for examining the thought processes that affect the quality of answers provided to questionnaire items. These research methods lead to greater validity, better reliability, and more accurate measurement. Our staff have considerable expertise in this rapidly developing area, with professional training in cognitive and social psychology, survey methodology, and experimental design. We are skilled in using cognitive interviews, questionnaire and forms appraisal, focus groups, and other research methods to improve survey instruments and designs. We perform this work in our state-of-the-art cognitive laboratory facilities or in field locations.

- **Applied Psychometric Group:** We have designed studies to assess the psychometric properties of questionnaires, such as reliability, validity, test dimensionality, and differential item functioning. We analyze data from both the pre-testing phase of questionnaire development as well as after a study has been completed. The members of our Applied Psychometric Group have formal training in psychometrics and expertise in many advanced psychometric techniques, including Item Response Theory (IRT), Structural Equation Modeling (SEM), and Latent Growth Curve Analysis. Our staff regularly consult with staff from the neighboring L.L. Thurstone Psychometric Laboratory at the University of North Carolina for specialized or unique psychometric problems.

Recent projects featuring questionnaire development and psychometric evaluation include the development of self-administered questionnaires designed to address a variety of issues, including sexual functioning; consumer satisfaction with health care plans and health care quality; barriers to prenatal care and infant immunization; tobacco, alcohol and drug use; patient satisfaction with antibiotics and antifungal medications; health education; and quality of life specific to a variety of psychiatric, respiratory, and pain-related disorders. We have also adapted questionnaires that were originally designed for use within different patient populations or cultures to address the multi-dimensional impacts of chronic pain, cystic fibrosis, heart disease, and incontinence. Finally, we have conducted psychometric analyses of questionnaire data across a wide range of domains.