Computer-Assisted Personal Interviewing

RTI is an industry leader in developing computer-assisted interviewing systems to enhance face-to-face data collection methodology. Since 1987, we have conducted dozens of computer-assisted personal interviewing (CAPI) surveys on topics ranging from Medicare benefits to drug use and sexual activity. Our CAPI system is enhanced by additional complex software systems that allow for effective case management, e-mail communication with field staff, and the transmission of data to and from field staff.

- **Software:** We offer our clients expertise in a variety of software packages to program data collection instruments. We are currently using CASES, developed by the University of California at Berkeley; BLAISE, developed by the Netherlands Central Bureau of Statistics; and the Fully Integrated Control System (FICS), an RTI-developed software product designed for programming questionnaires of varying length and complexity. Our experience with a variety of software packages allows us to evaluate our client's specific data collection requirements and select the most appropriate package for that application. All three software packages support audio computer-assisted self-interviewing (ACASI) instruments.

- **Hardware:** For our most recent CAPI applications, we have used notebook computers with the following characteristics: Pentium processor, 32Mb RAM, 1 GB disk, VGA color screen, internal modem, CD drive, and Microsoft Windows 95. We also use hand-held computers to facilitate screening respondents at the door. Given the dynamic nature of computer technology, we constantly monitor the market and evaluate all options when making new purchases.

- **Questionnaire Development:** Our CAPI questionnaires are designed to relieve the interviewer of much of the decision-making burden during the interview and to improve the quality of data by taking full advantage of computer technology. We have developed questionnaires of varying complexity, typically including skip patterns, consistency checks, range checks, and question fills/wording variations in the program. To date, our most complex CAPI application has resulted in a questionnaire of 1,800 uniquely defined questions, requiring 27,000 lines of code to program, and taking 2 hours on average to administer.

- **Authoring System:** To facilitate questionnaire development, we use a standardized authoring system. This system allows those responsible for instrument development to provide programmers with questionnaire wording and specifications (e.g., skip instructions, edit checks, and wording variations) in an electronic format that can be read into the CAPI system and transformed into CAPI code.

- **Testing Protocol:** We have developed a standard protocol for programmers and instrument development experts to follow in testing CAPI programs. Programmers thoroughly test and debug their program. Instrument development staff then follow a systematic testing approach, beginning with one-way testing of each item followed by more complex checks of programmed edits and skip patterns. Finally, programmers test the data storage files to ensure that all data collected are being saved properly to the data files.

- **Foreign Language Translations:** All of the CAPI software packages we offer our clients allow for the administration of interviews in foreign languages. Multi-language
interviews are typically developed as one instrument, sharing the same program logic. This eliminates the need for reprogramming and streamlines the testing process to focus only on the translated text. During data collection, interviewers can easily toggle between languages to accommodate respondent preferences.

- **Interviewer Training:** RTI field interviewers receive extensive hands-on training with the CAPI hardware and interview programs. In addition to round-robin and paired mock interview practice, interviewers are trained on our integrated field management system and hardware and software troubleshooting procedures. Interviewers with little or no computer experience also receive general computer training and practice with a CAPI tutorial prior to project training. We maintain a trainer-to-trainee ratio of between 5:1 and 7:1, depending on the experience of the interviewers and the complexity of the CAPI questionnaire. We provide on-call hardware and software support for our interviewing staff during training and data collection.

- **Case Management:** As part of every CAPI application, interviewers are linked to our integrated field management system. This system allows them to update the status of their cases daily and transmit the updates to RTI, where daily status reports are created for interviewers, supervisors, project staff, and clients. The system also facilitates the assignment of cases to interviewers, the transfer of cases between interviewers, and the daily transmission of interview data from the field to RTI. The system’s e-mail capability provides an effective and timely communication tool for field staff. The system is also designed to deliver software updates to field staff computers in the event that problems arise during data collection.

- **Types of Surveys:** We stand as an industry leader in the conduct of surveys of households, businesses, and special populations. Our clients include the Substance Abuse and Mental Health Services Administration, the National Institutes of Health, the Administration on Children, Youth, and Families, the National Center for Health Statistics, and the Centers for Disease Control and Prevention. Some recent studies of note include:

  - **National Household Survey on Drug Abuse**—We are currently conducting the 2000 survey, consisting of approximately 374,000 household screenings using hand-held computers and 70,000 completed CAPI interviews.
  
  - **National Survey on Child and Adolescent Well-Being**—This survey, currently in progress, will require 6,700 CAPI interviews with children and families.
  
  - **Child and Family Well-Being Study**—Approximately 2,800 children and their primary caregivers in poor or near-poor families are currently being interviewed using CAPI/ACASI technology.
  
  - **National Survey of Family Growth - Cycle V**—We interviewed approximately 10,800 women of childbearing age using CAPI and ACASI.
  
  - **Project DIRECT (Diabetes Intervention Reaching and Educating Communities Together)**—We interviewed over 1,100 persons using CAPI and also collected blood samples from consenting respondents with diabetes.
  
  - **Drug Abuse Treatment Outcomes Study**—We conducted CAPI interviews with more than 10,000 drug abuse treatment program clients while they were in treatment and completed more than 3,000 12-month post-treatment follow-up interviews with a subsample of the clients.