

**MIDUS**

Midlife in the United States



**A National Study of Health & Well-Being**

**Midlife in the United States  
National Study of Health and Well-Being  
Field Report**

**For the  
MIDUS Refresher  
Telephone Recruitment Interview and  
Self-Administered Questionnaire  
(P9904 / P9905)**

**FINAL REPORT**

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## OVERVIEW OF PROJECT

The University of Wisconsin Survey Center (UWSC) was hired by Professor Carol Ryff, Director of the University of Wisconsin Institute on Aging (UW-IOA), to recruit 3500 American adults into the ongoing MIDUS (Midlife in the U.S.) longitudinal study. This multidisciplinary investigation, led by researchers from across the United States, seeks to understand how factors in the lives of American adults such as working conditions, relationships, health, finances, personal outlooks and individual choices impact health and well-being as individuals age from early adulthood to later life. The MIDUS Refresher extends these questions to a new national sample so as to provide broad cohort comparisons, while also shedding light on how U.S. adults have been impacted by the 2008 economic recession and how these experiences are linked with their health, broadly defined.

The National Institute on Aging funded the MIDUS Refresher initiative with two separate grants, the first focused on younger members of the new sample, and the second focused on older respondents. Together, both groups match the age range (25-74) of the original MIDUS baseline sample fielded in 1995. Thus, the MIDUS Refresher sample was fielded in two time periods, beginning with recruitment of approximately 2,100 from the younger three decades (25-54) of the sample, referred to as the MIDUS Refresher Younger, or MRY. This effort was followed approximately 8 months later by recruitment of about 1,400 individuals in the remaining two older decades, referred to as the MIDUS Refresher Older or MRO. See Appendix C for more details on sampling and weighting.

MIDUS Refresher participants were recruited into the study via an initial 45-minute telephone interview, and were invited to complete a 108-page mail questionnaire and a 25-minute cognitive interview via telephone. Those who completed all three interviews were eligible for recruitment into other MIDUS projects (daily diary, biomarker, and neuroscience) being conducted by partner academic institutions across the country.

From November, 2011, through May, 2014, 3,577 new participants, evenly distributed by age and gender, completed the initial telephone interview. From December, 2011, through October, 2014, 2,600 respondents returned questionnaires. From February, 2012, through September, 2014, and 2,521 respondents completed the cognitive interview.

UWSC created a combined response rate for the Refresher telephone interview, weighted to all eligible respondents across sample types. Considering different formulas specified by the American Association for Public Opinion Research (AAPOR) and based on input from MIDUS staff, AAPOR Response Rate formula #5 was computed as 59%. This formula, which does not include cases of unknown eligibility in the denominator, was deemed most similar to the approach

used to determine the response rate for the MIDUS baseline national sample in 1995. Refer to Appendix B for more detail about the computation of response rate.

Of those who completed the initial telephone interview, the combined response rate on the self-administered questionnaire (SAQ) was 73%. The cognitive interview response rate was 71%.

See Appendix A for a timeline showing field dates by protocol.

See Appendix B for a full discussion of response by protocol.

All Appendices are available upon request from the MIDUS Administrative Core.

Please contact Dr. Barry Radler, University of Wisconsin, at [bradler@wisc.edu](mailto:bradler@wisc.edu).

See the MIDUS Cognitive Interview Field Report for a full discussion of cognitive interview protocols and response.

## The University of Wisconsin Survey Center

Founded in 1987, the UW Survey Center (UWSC) serves the survey research needs of a wide variety of clients including faculty, staff, and administration at the University of Wisconsin; faculty and staff at other universities; federal, state, and local governmental agencies; and not-for-profit organizations. A department in the College of Letters and Science of the University of Wisconsin—Madison, the UWSC provides a complete range of survey research capabilities. The mission of the Survey Center is to assist researchers by providing the highest quality survey research services.

Professor Nora Cate Schaeffer is the Faculty Director of the UWSC. John Stevenson is the Associate Director, Kelly Elver is the Director of Project Management, and Steven Coombs is the Field Director. Vicki Lein served as senior project director on the MIDUS Refresher project, and oversaw data collection in both telephone interviews. Griselle Sanchez served as project director for the questionnaire data collection. Other key UWSC staff included:

### Programming Staff

- Eric White, Technology Director. General oversight of all programming and technology programming staff. Responsible for setting up a secure file transfer protocol for daily delivery of MIDUS cognitive interview audio files.
- August Salick, MIDUS CASES programmer. Responsible for initial recruit telephone instrument and cognitive telephone instrument programming, project management system development, and Shell database development.
- Brendan Day MYSQL and CASES programmer. Responsible for creation of contact tracing database, and occupation and industry coding database.
- Kate Golan, CASES programmer. Responsible for programming and data delivery support.
- Dan Lawrence, CASES programmer. Responsible for programming questionnaire data entry database.

### Tracking and Locating

- Robert Breen, Tracking/Locating Supervisor. General oversight of tracking locating operations.
- John Matoushek, Tracking/Locating.

### Field Staff, Call Center

- Robert Schultz, Garrett Wartenweiller, Joe Degnitz, Call Center Supervisors. Responsible for hiring, training and supervising interviewers and shiftleaders in the Call Center. General oversight of calling on projects conducted by telephone.

- Meghan Eubanks, Katelyn Putz, Gary Filips, Paul Wade, Michael Turek, Leah Kutschke, Nora Brennan, Linda Gomez, Katie Odens, Colin Regan, Marissa Adams, Nadia Assad, Mitch Propson, Robert Wuetrich, and Aaron Kehoe. MIDUS Call Center Shiftleaders. Responsible for monitoring interviewers, finalizing cases, responding to respondent questions and referring issues for review by supervisors or project directors.
- Over 190 MIDUS-trained interviewers.

#### Field Staff, Mail and Data Entry Center

- Carrie Barrett, Crystal Buttles, and Nick Shultz, UWSC Mail and Data Entry Center supervisors. Responsible for staffing and training of Mail and Data Entry Center staff, and creating protocols unique to MIDUS data entry.
- Hilary Manley, Maria Richards, Brian Wood, Kate Manley, and Leo Schultz, Mail and Data Entry Center coordinators. Responsible for coordinating the preparation of all mailings of payments, questionnaire packets and letters to MIDUS respondents.
- Over 25 MIDUS-trained mail and data entry staff.

### **CASES Instruments**

#### *CASES CATI System*

Recruitment and Cognitive interviews were conducted over the telephone using computer-assisted telephone interviewing (CATI) technology. The CATI system used by the UW Survey Center for the initial interview and cognitive interview for the MIDUS Refresher younger decades was CASES 4.37. The CATI system used for the older decades was CASES 5.5, a newer version of the CASES CATI system that included an improved graphic interface, and additional administrative functions. CASES is copyrighted by the University of California-Berkeley's Computer-Assisted Survey Methods Program or CSM.

In both versions of the CASES CATI system, the text of the interview appears question by question on a computer screen for the interviewer to read to the respondent. Routing through the interview is based on pre-programmed skip logic. Question wording may be adapted according to answers previously given in the interview or based on pre-existing data in the sample record that has been imported into the system. The system allows for pre-coded questions, open-ended questions, and combinations of the two. In addition, the system allows only valid responses; when an invalid response is entered, the interviewer is asked to reenter the response.

For the Cognitive interview, the system allowed for the addition of banners. The banners were customized for each task, either providing interviewers cues on



script timing, exactly when each item should be said, or providing a task timer to inform interviewers when the period for response had ended.

The CASES system keeps track of the current status of all sample telephone numbers, automatically routes them for proper follow-up for the next attempt, and maintains an elaborate set of management records.

### *CASES SAQ Data Entry System*

The self-administered questionnaire (SAQ) data entry instrument was programmed for double data entry in CASES 5.5. In CASES, the text of the questionnaire appears question by question on a computer screen and the data entry operator enters the response provided by the respondent. Skip logic is pre-programmed into the system. The system allows for pre-coded questions, open-ended questions, and combinations of the two. In addition, the system allows only valid responses; when an invalid response is entered, the computer asks the data entry operator to reenter the response.

In double-data entry, such as with MIDUS, trained editors review all SAQs and clarify ambiguous response prior to first-pass data entry. When the second-pass data entry operator enters the response, CASES monitors discrepancies between first-pass and second-pass entries, and when any exist, loads a discrepancy screen requesting the second pass data entry operator to resolve the discrepancy.

UWSC programmed the system to track data entry operator error rates and used results for targeted training efforts.

## **BACKGROUND**

**MIDUS 1** launched in 1995 and recruited over 7,100 American adults, aged 25 to 74, into a national study on health and well-being. A panel of over a dozen researchers around the country, in fields ranging from psychology, sociology and anthropology, to medicine, and health care policy were involved in the MIDUS study. In addition to a main RDD national sample, MIDUS included a large subsample of 998 pairs of twins, the largest randomly drawn sample of twins in the United States. Also included was a sample of hundreds of siblings of the Main RDD respondents, as well as over-samples of different metropolitan areas in the U.S. The study's comprehensive, multimodal protocol included a 30-minute telephone interview, and a 100-page mail questionnaire. Further, some respondents also participated in a diary study of daily stress. MIDUS 1 was conducted at Harvard University and was sponsored by the John D. and Catherine T. MacArthur Foundation.

In 2004, **MIDUS 2** returned to the original MIDUS participants with a 45-minute telephone interview, a 100-page self-administered questionnaire, but also added a 25-minute cognitive interview via telephone, and repeated and expanded the daily stress project. MIDUS 2 also introduced projects that collected comprehensive biomarkers and conducted affective neuroscience assessments. Longitudinal survey data were collected on 75% of the eligible living respondents from the baseline MIDUS 1 study. MIDUS 2 also included a new African-American oversample of over 500 individuals from Milwaukee, Wisconsin, recruited via in-home interviews. The MIDUS 2 survey and cognitive project data was collected by the UWSC and supported by funding from the National Institute on Aging.

In 2013, **MIDUS 3** returned to the 4,460 living respondents who had participated in MIDUS 2, now aged 45 to 94. Participants were recruited with a 45-minute telephone interview, and invited to complete a 100-page self-administered questionnaire, and a 25-minute cognitive interview via telephone. MIDUS 3 contained new questions focusing on the health effects of the 2008 economic recession. Data were collected on 77% of eligible respondents. MIDUS 3 was conducted at the UWSC with funding from the National Institute on Aging.

The **MIDUS Milwaukee Refresher** project, fielded in 2012, recruited 508 new participants from Milwaukee, Wisconsin, African-American adults, aged 25 to 64. The MIDUS Milwaukee protocols included an in-home interview lasting an average of 2 hours and 40 minutes, a 44-page leave-behind questionnaire, and a 25-minute cognitive interview via telephone. The Milwaukee Refresher sample also participated in the biomarker and neuroscience projects.

The national **MIDUS Refresher** was envisioned to replenish the original longitudinal sample, diminished over time through attrition, with a younger cohort to allow for age, cohort, and period-effect analyses. The goal of the MIDUS Refresher was to recruit 3,500 new participants into the study that mirrored the original MIDUS sample, American adults aged 25 to 74. Data collection protocols were similar to those used in the MIDUS longitudinal study, with a 45-minute telephone interview, a 108-page mail questionnaire, and a 25-minute cognitive interview. The Refresher sample also participated in the daily stress, biomarker, and neuroscience projects.

The MIDUS Refresher was funded by the National Institute on Aging as two separate but related efforts. The MIDUS Refresher younger decades (MRY), fielding in November, 2011, recruited over 2,100 new participants aged 25 to 54. Funding was later added for the MIDUS Refresher older decades (MRO). Fielding in June, 2013, MRO recruited over 1,400 new participants aged 55 to 74. Both the MRY and MRO efforts used the same instruments and protocols for data collection. The staggered funding and staged fielding created some recruitment challenges met through a thoughtful and dynamic sampling plan. For details, see Appendix C, Sampling and Weighting the MIDUS CATI data.



## **INSTRUMENT DEVELOPMENT**

### *CATI and SAQ Instruments*

In April, 2011, UWSC staff met with primary investigator Dr. Carol Ryff, Dr. Barry Radler, and Dr. Gayle Love, to discuss the MIDUS Refresher instruments, protocols, and sampling plan. The UWSC's work on the MIDUS Refresher telephone interview and questionnaires began soon thereafter. The MIDUS Refresher CATI and SAQ instruments were similar to previously fielded MIDUS longitudinal instruments, but included additional baseline measures that are only administered once to each sample. Other content new to the Refresher was questions about participants' experiences in the recent recession, employment and personal finances, and use of social networking.

Review of the instruments was conducted in an iterative fashion. Questions were minimally revised to reflect best practices in survey design, with strong consideration given to maintaining comparability with previous MIDUS longitudinal instruments. Employment questions were updated to better support UWSC coding of occupation and industry for the respondent, a spouse or partner, and the parents or guardians.

The CATI instrument was revised to manage recruitment, random sample selection and the collection of contact information for new participants. Several limits and validity checks were added to the instrument. Skip pattern logic was tested and the CATI instrument put through rounds of debugging.

By October, 2011, the CATI sampling plan was in place, allowing internal testing of the instrument with mock sample files. This testing resulted in a few simple revisions to the instrument. Edits were tested a final time and the CATI instrument was ready to field.

The MIDUS Refresher SAQ was reviewed simultaneously to the CATI instrument. Questionnaire layout and design were updated with assistance from UWSC methodologist Jen Dykema, and the UWSC Questionnaire Design working group. UWSC monitors current best practices in survey design to ensure the highest quality data. Again, the desire to maintain comparability with previous MIDUS longitudinal instruments guided decisions. The questionnaires were created in Microsoft Word, and were converted to ready-to-print pdf format by November, 2011. Questionnaires were printed at UW Printing Services.

### *Project Management Database*

The UWSC created the MIDUS project management database (PMDB) to manage the flow of each case individually through study protocols.

The MIDUS PMDB stored:

- All respondent contact information no matter where in the process it was collected
- Important dates such as the dates of fielding, mailings, and completion
- Each protocols interim or final case disposition codes
- Key variables from the recruitment and cognitive telephone interviews, including interviewer observations, call notes, and respondent age, gender, and education
- Sample and weighting variables such as sample type, replicate, sample selection probabilities and household composition

The PMDB was connected to the CATI recruitment instrument, the UWSC Tracer database, and the Cognitive Interview instrument, allowing real-time review of progress. Reports were customized to support such tasks as sample review, progress reporting, project oversight, contact delivery and center-wide work flow management.

### *Pretest: CATI and SAQ*

A MIDUS Refresher pretest of the CATI and SAQ instruments, field protocols, sampling plan and project management database was conducted from November, 2011 through January, 2012 using a national sample of 1059 cases. The pretest resulted in only minor changes to instruments and protocols, producing usable data. Pretest cases fielded in the cognitive instrument in February, 2012.

### *Cognitive Instrument*

In July, 2011, UWSC staff met with Dr. Margie Lachman of Brandeis University and key UW-IOA staff to discuss the MIDUS Refresher Cognitive instrument and protocols. To the extent possible, the instrument and protocols would replicate those used during MIDUS 2. However, the increasing prevalence of cell telephones required that variable latencies in response due to technology be addressed in the Refresher.

Eric White, UWSC Director of Programming, investigated relay lag variance, finding that lag could vary widely even within a call. Dr. Margie Lachman and Dr. Patricia Tun developed the Metronome Count, a method to measure response variance both between and within calls. The Metronome Count protocols were

developed and tested. The measure was added to the instrument both before and after the Red/Green Task, the key task concerned with response latencies.

By October, 2011, the Cognitive instrument, including the new relay latency measure, was programmed and tested. The digital audio recording of the entire Cognitive Interview was an important part of data collection. A new audio file format was tested to ensure comparability with MIDUS 2 audio files. Audio recordings of mock interviews were delivered to the client for review.

In January, 2012, the Cognitive Instrument was revised, reprogrammed and retested. In February, 2012, additional internal pretesting of instruments and protocols was conducted, with audio recordings delivered for client review. At this time, UWSC added time stamps to the instrument to support the automation of audio processing and review being conducted at Brandeis University. After minor revisions to the instrument and protocols, the Cognitive interview was fielded on February 19, 2012.

### **MIDUS Refresher CATI SAMPLE**

MIDUS researchers study associations among variables across a broad range of topics throughout the life course. Beyond simply replenishing the sample, the MIDUS Refresher sought to recruit 3500 new participants who were evenly distributed by age and gender, to facilitate comparisons across age and gender groups. See Table 1 below.

**Table 1: MIDUS Refresher CATI Recruitment, Goal**

<b>Ages</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
25-34	350	350	700
35-44	350	350	700
45-54	350	350	700
55-64	350	350	700
65-74	350	350	700
	1750	1750	3500

The UWSC worked with a sampling statistician, Dr. Charlie Palit, to develop a sampling plan that would achieve these goals. The Refresher employed a multi-frame dynamic sampling design. The MRY sample was comprised of landline random digit dial (RDD) sample, random cell-phone only (CPO) sample, and age-targeted list sample. The MRO sample was comprised of age-stratified RDD and CPO sample. The UWSC obtained the sample phone numbers from Genesys Inc, a well-known and respected sample provider. Dr. Charlie Palit further processed the age-targeted list sample into groups likely to have

respondents in each of the youngest age categories. See more details on sampling and weighting in Appendix C.

### *RDD and Age-Stratified RDD Sampling Procedures*

RDD samples are derived by determining all telephone exchanges with assigned residential land-line numbers. All possible numbers in any block with one or more listed residential numbers are eligible for selection into the sample with equal probability. The sample is representative of currently working residential land-line telephone numbers, the universe of all listed numbers as well as unlisted and newly assigned numbers.

For age-stratified RDD samples, additional information is appended to RDD records, including the likely age of household members. For MIDUS, this information was used to stratify the sample based on the likelihood the household might contain an adult aged within the targeted age categories.

### *Age-Targeted List Sampling Procedures*

The age-targeted list sample was drawn from a list of phone number and address combinations for which household information on age could be imputed. Dr. Charlie Palit then used probabilistic selection based on likely household composition to stratify the sample into the appropriate MIDUS targeted age categories.

### *Cell Phone Sampling Procedures*

The National Health Interview Survey (January-June 2009) estimated that roughly one in five American homes had only wireless telephone service, and this proportion was expected to increase. Population members with only cell phone access were concentrated in the youngest age groups, with estimates that 46% of adults aged 25-29 and 34% of adults aged 30-44 were cell-only. To improve coverage of these younger age groups and other persons not covered by the landline telephone frame, the RDD landline and list samples were augmented with a cell phone sample.

Cell numbers were selected from banks of numbers known to be released for cell use in the United States, based on the area code prefix combinations. Cell phones from the landline-phone frames were included in the sample from the landline frame.

### *Fielded Sample*

During the MIDUS Refresher, 52,905 phone numbers were fielded (see Table 2.) This number included all cases fielded by the UWSC, both working and nonworking numbers. The sample was divided into randomly generated replicates fielded monthly.

**Table 2: MIDUS Refresher Fielded Sample Type**

<b>Sample Type</b>	<b>Total</b>
RDD	22123
Age-stratified RDD	10688
Age-targeted List	8153
Cell	11941
<b>Total</b>	<b>52905</b>

### *Verification and Selection of the Respondent*

For landline RDD and list samples, the sample design required random selection of a participant from all eligible adults in the household. Each telephone number was screened to verify that it was associated with a household, and further screened to determine if at least one household resident was between the eligible ages (25-74). If the age of more than one person in the household fell within the applicable age range, a respondent was randomly selected from among all eligible members of the household. Only the selected person could be interviewed, no substitutions were allowed.

Sample selection probabilities were varied across age groups and gender to achieve even age and gender distribution in recruited participants. Sample selection probabilities for a replicate were not changed once the replicate was fielded. Selection probability settings were based on careful monitoring of real-time results in previously fielded replicates. Probabilities often favored males and younger household members, but all adults within the targeted age range always had a non-zero probability of selection. The ultimate probability of selection was calculated based on household composition. The final sampling rate was used as an input in calculating final sample weights. See Appendix C for a discussion of sample weighting.

For cell sample, the potential participant was the adult answering the phone. The sample design required no household enumeration. Cell owners were screened to verify that they did not own a landline, and also screened to ensure their age fell between the eligible age ranges of 25 to 75. If so, they were selected as the participant. No substitutions were allowed.



## TRACING PROTOCOLS

### *Tracing Protocols*

During the initial telephone interview, bad numbers were ineligible, so required no tracing. After respondents completed the initial telephone interview, the respondent name and address was added to the UWSC Tracer, a program created by the UWSC to store respondent contact information. All new contact information was cleaned and traced.

Tracking and Locating staff used the UWSC Tracer to update contact information for respondents across protocols. The program retains a record of all past and current addresses and phone numbers. The Tracer system interacted with the Refresher telephone instrument, the project mailing database, and the Refresher Cognitive Interview instrument to ensure the most up-to-date contact information was collected and used as cases flowed through the protocols.

All undeliverable MIDUS mailings were sent for tracing. If no better address was identified, up to five phone calls were placed to the respondent in an attempt to collect a new address or to confirm the existing one. Updated information was added to the Tracer.

During the Cognitive Interview, cases were sent for tracing when calls resulted in wrong numbers, disconnected numbers, faxes, or when an informant reported a known respondent was no longer living at the number. After 20 calls without contact, cases were sent for tracing. If the Tracking and Locating Department found no better telephone number, a letter was sent to the respondent requesting updated contact information. If a new number was not returned, the case was put on hold for a month, and retraced. This process was repeated as necessary throughout the field period.

New contact information collected during the cognitive interview was imported into the Tracer upon completion of the interview. If new contact information was collected after the cognitive interview was finalized, it was updated in the Tracer until the date the case was delivered to the client. Thereafter, new contact information was sent to the client via secure channels.

The UWSC Tracing Manual highlighting tracing sources and procedures is located in Appendix D.

## **FIELD PROCEDURES**

### *A Toll-Free Respondent Line*

To maximize opportunities to make contact with respondents, a toll-free line for MIDUS was established. The MIDUS line is distinct from the general Survey Center toll-free number in use for other studies in the field and is available only for MIDUS purposes. A voicemail box is set up on this phone number in the event that Call Center staff are not available to answer the phone. A recorded message instructs callers to leave a message if they are calling about an interview, or regarding a payment question. The toll-free number was included in advance letters sent to all MIDUS participants. During the field period, the toll-free number was given out by interviewers trying to reach respondents and left on answering machines to encourage difficult to reach respondents to call in.

### *Advance Letters*

Whenever possible, one week prior to being contacted by a telephone interviewer, potential MIDUS households were sent a personalized mailing that included a cover letter, a \$2 bill as a pre-incentive, and a MIDUS Refresher brochure. The letter explained the purpose of the study, conveyed its legitimacy, and let the household know in advance that an interviewer would soon be calling. The brochure highlighted the reasons for the study, emphasizing the ongoing importance of MIDUS research. It explained that the initial interview would take place over the telephone, and that the study would also include a questionnaire, a short cognitive interview, and the opportunity to participate in other MIDUS research. Both the letter and the brochure included the MIDUS toll-free number.

Sample telephone numbers were reverse matched to names and addresses wherever possible. Only reverse matched numbers could be sent the advance letter. About half of the RDD sample was reverse matched. Nearly all age-targeted list and age-stratified RDD sample was reverse matched. No cell sample was reverse matched.

The advance letter was personalized to the reverse matched name provided. The letters were sent with "No Forwarding Service Requested". It was never assumed that the household had received the advance letter. Even if the household had received a letter, the respondent eventually selected for the study may never have seen the letter. Therefore, all pertinent information was repeated in the telephone scripts.

### *CATI Autoscheduler*

The CATI autoscheduling system allowed anyone accessing a case to read the call notes of all previous attempts to reach the respondent, and administrative notes indicating when a case was sent for tracing and the results of the tracing effort. The autoscheduler kept track of all sample telephone numbers, automatically routing cases for proper follow-up for the next call attempt or for review, and maintained an elaborate set of management records.

### *Verifying Identity via Telephone*

A set of questions was programmed into the cognitive interview to verify respondent identity via the respondent's age. This helped ensure the correct respondent was participating. This system was most helpful in identifying cases where an incorrect respondent had been identified during tracing and it also helped in situations where family members with the same name lived in the same household, ensuring UWSC interviewed the correct respondent.

### *Verifying Identity via Questionnaire*

The questionnaire contained a question requesting the respondent's date of birth. While not originally intended to verify respondent identity, the response to this question was compared to the date of birth provided during the initial recruitment telephone interview. Discrepancies identified cases where someone other than the recruited respondent may have completed the questionnaires. Cases with such discrepancies received further review and tracing, including personal calls to the respondent to verify information.

### *Study Protocols*

The MIDUS Refresher initial telephone interview, the mail questionnaire, and the cognitive phone interview were all in the field simultaneously. Respondents fielded in each protocol on an individualized timeline. Some respondents completed the mail questionnaire within days of finishing the phone interview, while others took months to complete the mail questionnaires. The basic fielding protocol was as follows.

- 1) An advance letters was sent whenever possible, with a brochure explaining the three portions of study.
- 2) Cases were fielded for calling a week after the advance letter posted.

- 3) A CATI post-incentive check for \$25, with a thank you letter and brochure, was sent to the respondent within a week of completion of the telephone interview.
- 4) An SAQ packet was sent to the respondent ten days after the CATI post-incentive was sent. The SAQ packet contained:
  - a. A cover letter explaining how to fill out the SAQ booklets
  - b. Two SAQ booklets
  - c. Two five dollar bills, pre-incentives to complete the SAQ booklets
  - d. A tape measure, for use in taking requested body measurements
  - e. A large business reply envelope, for returning completed questionnaires
  - f. A letter-sized business reply envelope, for separately returning a removable re-contact sheet requesting contact information for those who might know how to find the respondent in the future.
- 5) An SAQ reminder postcard was sent two weeks after the SAQ packet was mailed, to encourage respondents to complete and return the SAQs as soon as possible.
- 6) *For SAQ non-responders:*  
A second SAQ packet was sent, similar to the first but without the pre-incentive 4 weeks after the first SAQ packet postdate. A third such SAQ packet was sent to non-responders in another 4 weeks.
- 7) *For SAQ responders:*  
An SAQ post-incentive check for \$25 was sent within one week of receipt of the completed SAQ booklets.
- 8) Cases were fielded for the Cognitive Interview two weeks after the SAQ post-incentive was sent OR four weeks after the third SAQ mailing was sent. No additional incentives were sent for the Cognitive interview.
- 9) At the end of the Cognitive Interview, SAQ non-responders were again prompted to return their questionnaires. A fourth SAQ packet was sent upon request.

Special protocols, used as needed, consisted of:

- 1) An additional copy of the advance letter and brochure were sent upon request to respondents reporting they'd not received the advance letter.
- 2) A phone request letter was sent during the cognitive interview if the telephone number appeared to be bad, or if the respondent never answered. The letter asked respondents to update their contact

- information if it had changed. The mailing included a form to return with new contact information and also provided the MIDUS toll free number.
- 3) A copy of the Certificate of Confidentiality, obtained from the federal government for the MIDUS study, was sent to respondents very concerned about confidentiality issues.
  - 4) Respondents expressing other concerns were contacted either by Project Director Vicki Lein, or by Dr. Barry Radler, University of Wisconsin IOA.

See Appendix E for examples of all mailing materials.

#### *CATI Refusal Protocol*

Standard protocol at the UW Survey Center is to hold a case that has refused for at least two weeks before attempting a conversion. This strategy was applied to the MIDUS Refresher. Cases continued to be called if the refusal occurred directly after the phone was answered, before the respondent knew the purpose of the call, or if an informant refused on behalf of the respondent with little information about the purpose of the call. When respondents or informants who knew the purpose of the call refused, the case was held for at least two weeks and then called again by refusal conversion specialists who attempted to convince reluctant respondents to participate. If respondents once again refused their case was finalized as a refusal.

#### *Respondent Payments*

Respondent payments were discussed in sequence in the field protocol section, but to recap, respondents received a post-incentive check of \$25 after completing the main telephone interview. They were then sent \$10 (two five dollar bills) in pre-incentive along with the initial mail questionnaire packet. After the completed questionnaires were received, respondents were sent another post-incentive check of \$25. No additional incentive was sent for the cognitive phone interview.

### *Interviewer Training*

New interviewers at the UWSC receive over 20 hours of training. Due to its complexity, and importance, all MIDUS interviewers were required to have had at least three months experience calling other CATI projects at the UWSC prior to being trained on MIDUS. In a few cases, interviewers showing above average proficiency and maturity were hand-selected for MIDUS training prior to the three month mark.

In addition to the general training, MIDUS interviewers received 4 hours of training specific to MIDUS issues and the MIDUS instrument. Interviewers were trained on how cases would be fielded, the screening methods to be used with each sample type, MIDUS-specific calling guidelines, protocols for refusals, and focused training on industry and occupational items. Interviewers completed a “walk-through” of the entire telephone instrument and participated in a demonstration of industry and occupational probing.

Dr. Carol Ryff or Dr. Barry Radler attended interviewer trainings, presenting on the importance of MIDUS, the purpose and design of the study, results from previous waves of data collection, and goals of the MIDUS Refresher. Doctors Ryff and Radler shared information about other MIDUS projects to ground interviewers in the entire MIDUS study, to help interviewers understand how their work would fit into the whole. These presentations inspired interviewers, providing background information that helped interviewers inform and persuade potential MIDUS respondents.

After the training, interviewers were given time to practice on their own, pairing up to practice industry and occupation probing, and then completing at least two practice cases in their entirety before calling potential respondents.

In addition to project-specific training, all UWSC interviewers are regularly monitored during calls to respondents to ensure that they are following protocol and adhering to standardized interviewing techniques. UWSC uses a blind monitoring system, where a supervisor sits in a room not visible to the interviewer, and uses a monitoring system that allows them to hear interviews (both the respondent and the interviewer), see the same screens the interviewer is seeing during the interview, and see the answers that the interviewer enters as they are being entered. All interviewers have their work monitored on a monthly basis, and are provided feedback critiquing their work and offering suggestions for improvement. If there are special issues that require attention, interviewers are monitored more frequently. This system of monitoring interviewers allows for constant improvement of staff abilities. If there is a larger training issue that all interviewers would benefit from learning about, monitoring makes the issue apparent very quickly.

After gaining a few months' experience calling MIDUS Refresher sample, interviewers were eligible to attend a specialized MIDUS refusal aversion training, where they were given additional tips for improving completion rates, and were able to share approaches they had found to be particularly successful in gaining participation from reluctant respondents.

### *Cognitive Interviewer Training*

Highly-specialized interviewer training was required for the Cognitive interview. Tasks involved in cognitive interviewing differ from the usual tasks in telephone interviews. Rather than obtaining factual information from the respondent or asking respondent opinions, the MIDUS Cognitive interview involved administering cognitive tests to the respondents on the telephone. Some of these tests were timed, and so included a speed element. Other tests involved collection of open-ended responses from the respondent in a timed fashion, which made it difficult for the interviewer to record using standard data entry methods. One of the tests involved a task-switching element for respondents which required the interviewer say things with very precise timing while recording respondent answers at the same time.

Interviewers were specifically selected to train for the cognitive interview. As a prerequisite, they had to have trained for the MIDUS recruitment telephone interviewer and to have successfully called on MIDUS for over a month. Cognitive interviewers had to attend trainings during non-standard work hours. Trainings took place in the UWSC Call Center, and thus usually were scheduled when the Call Center was closed.

The Cognitive interviewer training differed from other UWSC training sessions in that it is a hands-on training. Each task was explained, interviewers had a chance to administer the task, and then the task was discussed. Interviewers were given detailed instructions, including the tone of voice and inflection to use in administering each task, acceptable words to use between tasks, how to test and use programmed timers and audio recording equipment, how to respond to respondent 'errors' and self-corrections, how to judge when a task was too difficult for the respondent and how to graciously exit such a task. Interviewers were given individual feedback during the training session on how to improve technique.

After the training, interviewers were paired up and asked to practice for at least four hours. When they were ready, they were tested on a specially programmed module, a stand-alone version of the "Red/Green" task-switching test. Interviewers were tested under three different scenarios: one with a respondent who had no trouble completing the interview, another where the respondent had some difficulties, and a third where the respondent had a great deal of trouble completing the task. Interviewers were tested on these three scenarios to ensure they could competently administer the test with all types of respondents. Only

interviewers who obtained a 95% accuracy rate on all three scenarios were approved to start conducting cognitive interviews.

Audio recordings of the entire interview were delivered to Brandeis daily. In addition to the real-time live monitoring of the Cognitive interviews done by UWSC, staff at Brandeis also reviewed the audio recordings and provided specific feedback to individual interviewers.

See Appendix F for more information Cognitive interviewer training.

### *Data Entry Protocol and Staff Training*

Data entry for the MIDUS questionnaire began in May, 2012. The two SAQ booklets that make up the MIDUS Refresher mail questionnaire were 52 and 56 pages in length respectively. They include every possible type of formatted question, making them quite complex to enter. Given all of these facts, each booklet was first reviewed by an “editor” to uncover any issues that could cause data entry confusion. Editors resolved issues before questionnaires moved on for data entry. All data entry operators were eligible to become editors if they passed the certification process. Editor protocols were included in the Data Entry Specifications Manual. Editors were trained on how to resolve the most common problems, such as respondents who gave multiple answers, selected answers that fell between actual response categories, or followed skip patterns incorrectly.

Data entry staff were given two hours of MIDUS-specific training to familiarize them with the instrument, train them in the specific protocols set for the project, and give them an opportunity to practice and ask questions about the data entry process. (See Data Entry Specifications Manual in Appendix G.) Each questionnaire booklet was double-data entered, blind entered by two different data entry staff members. When a discrepancy between the first pass and the second was found by the CASES system, the second data entry person was alerted to the difference in responses, determined the correct answer (with help from an editor if needed) and made the appropriate corrections.

### **EFFORT REQUIRED**

UWSC placed 371,312 telephone calls on 52,905 cases over the course of the MIDUS Refresher recruitment telephone interview field period. The number of call attempts per case ranged from 0 (cases lacking a valid telephone number) to 29, with an average of 7 call attempts overall, and an average of 5 call attempts among recruited sample. Of completed cases, 36% completed the interview in 1 or 2 calls, 30% in 3-5 calls, 23% in 6-10 calls, 9% in 11-15 calls, and 3% in more than 15 calls (see Table 3).



**Table 3: MIDUS Refresher Recruitment Interview, Call Attempts**

Number of Call Attempts	Number of Completes	Percent of Completes	Cumulative Percent of Completes
1-2 calls	1273	35.6%	36%
3-5 calls	1081	30.2%	66%
6-10 calls	809	22.6%	88%
11-15 calls	313	8.8%	97%
16+ calls	101	2.8%	100%
All calls	3577	100%	

UWSC sent over 43,100 pieces of mail over the course of the MIDUS Refresher field period, which included 27,592 advance letters, 6,177 post-incentive checks, 6,411 questionnaire packets, and 2,436 reminder cards (see Table 4). All mailings were resent to respondents upon request. Except for the advance letter, all other mailings returned undeliverable were resent whenever a better address was located.

**Table 4: MIDUS Refresher Mailings**

Mailing Type	Number Sent
CATI advance letter	27592
CATI post-incentive*	3580
SAQ, first packet with pre-incentive*	3580
SAQ, reminder postcard	2436
SAQ, second packet, to non-responders	1608
SAQ, third packet, to non-responders	1162
SAQ, fourth packet, after COG	61
SAQ post-incentive**	2604
COG phone request letters	475
<b>TOTAL Mailings</b>	<b>43091</b>

Excludes duplicate mailings resent to the same respondent

\*Includes 3 sent to respondents later deemed ineligible

\*\*Includes 4 sent to ineligible respondents

The UWSC placed 43,096 telephone calls on 3,577 cases for the MIDUS National Refresher cognitive interview. The number of call attempts per case ranged from 0 (cases lacking a valid telephone number) to 94, with an average of 12 call attempts overall, an average of 7 call attempts among complete cases. Of respondents who completed the cognitive interview, 32% completed the interview in 1 or 2 calls, 30% in 3-5 calls, 19% in 6-10 calls, 8% in 11-15 calls, 5% in 16-20 calls, and 6% in more than 20 calls (see Table 5).

**Table 5: MIDUS Refresher Cognitive Interview, Call Attempts**

Number of Call Attempts	Number of Completes	Percent of Completes	Cumulative Percent of Completes
1-2 calls	815	32.0%	32%
3-5 calls	776	30.4%	62%
6-10 calls	488	19.1%	82%
11-15 calls	191	7.5%	89%
16-20 calls	121	4.7%	94%
21+ calls	159	6.2%	100%
All calls	2550	100%	

## RESULTS

### *MIDUS Refresher CATI Recruitment*

The MIDUS Refresher CATI interview recruited 3577 new participants into the MIDUS longitudinal study. The sampling plan achieved fairly even gender distribution across age groups. Overall 48% of recruited sample were male and 52% were female. The plan also achieved fairly even age distribution across genders, nearing the ideal distribution of 20% of participants within each age group (see Tables 6, 7 and 8.)

**Table 6: MIDUS Refresher CATI Participants**

Ages	Male	Female	Total
25-34	340	355	695
35-44	342	383	725
45-54	330	402	732
55-64	359	352	711
65-74	351	363	714
Total	1722	1855	<b>3577</b>

**Table 7: MIDUS Refresher CATI Gender Distribution**

Ages	Male	Female	Total
25-34	49%	51%	100%
35-44	47%	53%	100%
45-54	45%	55%	100%
55-64	50%	50%	100%
65-74	49%	51%	100%
Combined	48%	52%	100%

**Table 8: MIDUS Refresher CATI Age Distribution**

Ages	Male	Female	Combined
25-34	20%	19%	19%
35-44	20%	21%	20%
45-54	19%	22%	20%
55-64	21%	19%	20%
65-74	20%	20%	20%
Total	100%	100%	100%

*MIDUS Refresher SAQ and Cognitive Interview Recruitment*

All recruited participants who completed the initial telephone interview were invited to complete the questionnaires, and, whether or not they returned the questionnaires, were invited to participate in the Cognitive Interview. Out of these, 2612 respondents completed MIDUS Refresher questionnaires, and 2550 completed the Cognitive Interview. The lower response tendency of younger male participants is reflected in the yields and age and gender distribution of returned SAQs and Cognitive Interviews (see Tables 9 through 12.)

**Table 9: MIDUS Refresher SAQ Completes**

Ages	Male	Female	Total
25-34	205	238	443
35-44	214	258	472
45-54	220	307	527
55-64	288	291	579
65-74	295	296	591
Total	1222	1390	2612

**Table 10: MIDUS Refresher SAQ Yield,  
as Percent of Fielded Cases**

<b>Ages</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
25-34	60%	66%	63%
35-44	62%	67%	65%
45-54	66%	76%	72%
55-64	80%	82%	81%
65-74	84%	81%	82%
Combined	71%	74%	73%

**Table 11: MIDUS Refresher Cog Completes**

<b>Ages</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
25-34	199	211	410
35-44	204	233	437
45-54	229	298	527
55-64	293	296	589
65-74	295	292	587
Total	1220	1330	2550

**Table 12: MIDUS Refresher Cog Yield,  
as Percent of Fielded Cases**

<b>Ages</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
25-34	59%	59%	59%
35-44	60%	61%	60%
45-54	69%	74%	72%
55-64	82%	84%	83%
65-74	84%	80%	82%
Combined	71%	72%	71%

## **INTERIM AND FINAL DATA DELIVERIES**

### *Delivery of Contact Information*

After completing the initial telephone interview, questionnaires, and cognitive interview, MIDUS respondents were eligible for fielding in other MIDUS projects (daily diary, biomarker, and neuroscience) conducted concurrently. The UW-IOA needed key variables for such respondents delivered on a regular basis. This information was used in assigning these completed cases to the other projects.

UWSC staff worked with UW-IOA staff to modify the delivery database, known as the “Shell”. Contact information from the UWSC Tracer system fed into the Shell, as well as information collected during the recruitment telephone interview and the cognitive interview. The Shell included respondent contact information, demographic variables, interviewer assessments, call notes, and mailing and completion dates. UWSC monitored progress, identified eligible participants, populated the Shell and delivered it to the UW-IOA regularly throughout the field period as the other projects needed sample.

The Shell included:

- Contact information – Names, addresses, phone numbers, and previous contact information for each respondent.
- Call notes – Interviewer record of the outcome of each call attempt, giving possible insights into how to best re-contact respondents.
- Interviewer Assessments - After the initial interview and the cognitive interview, interviewers rated respondent cooperativeness and competency and recorded anecdotal information respondents may have shared that might help other projects’ recruitment efforts.
- Dates – Field dates were recorded, including the dates of initial interview completion, when questionnaires were mailed and completed, questionnaires returned, when cases were fielded in the cognitive interview, cognitive and the cognitive interviews were completed.

The UWSC delivered 24 installments of the Shell data. A final comprehensive Shell delivery was made for each project which included all cases, whether or not the questionnaire or the cognitive interview was completed.

The first Shell delivery took place in September, 2012. The last Shell data delivery took place in October, 2014.

### *Delivery of CATI Data*

In December, 2011, within weeks of fielding the pretest, UWSC delivered for IOA review an interim data set of the first 26 completed MR-CATI interviews. By January, 2012, interim telephone data for 55 pretest cases was delivered. The pretest resulted in no significant changes to instruments, sampling, or protocols. Production started shortly thereafter, with the 55 usable pretest cases therefore folded into production.

In July, 2013, soon after fielding the MRO production instrument, UWSC delivered for IOA review an interim data set that included the first 25 completed MRO-CATI interviews.

Final telephone interview data on 3577 cases was delivered in three installments. In August, 2012, the first delivery included data from 1319 interviews conducted from November, 2011 through May, 2012. It included one case later removed from the study due to ineligibility. In October, 2012, the second installment of MR-CATI data was delivered. It included 834 interviews conducted from June, 2012 through September, 2012. In June, 2014, the third and final installment of MR-CATI data was delivered, including 1425 interviews conducted through May, 2014.

### *Delivery of Industry and Occupation (IO) Codes*

In a series of open-ended questions in the MR-CATI interview, the UWSC collected employment information for the respondent, their spouse and their parents. Collected information was exported verbatim into the UWSC coding database, a system used by trained coders to convert open-ended response into job titles and industry codes

UWSC coders are trained to use hard-copies of the Alphabetic Index of Industries and Occupations, the Alphabetic Index of Military Occupations, and the Production Coder Manual published by the Bureau of the Census, but the majority of coding is done using software developed by UWSC staff. The software searches a database of occupation and industry titles and returns all titles that match the search parameters. The resulting titles and codes are sorted by group and displayed in a hierarchical list, allowing coders to quickly review all variations on a given title. The software records the codes and titles assigned to each response, along with a detailed history of coder searches.

MIDUS coders work in pairs, double-coding each case. Supervisors review all codes that do not agree, and later meet with individual coders to review discrepancies. MIDUS coded to the 2010 Alphabetic Index of Industries and Occupations distributed by the US Census Bureau. Codes assigned with the Alphabetic Index were then converted to their SOC and NAICS counterparts.

All IO codes were delivered by June, 2014. Coded variables included industry and occupation for jobs reported by the respondent for their own current or former occupation, the current occupation of the respondents' spouse and the occupation of the respondents' parents during the respondents' youth.

#### *Delivery of SAQ Data*

In July, 2012, UWSC delivered interim data on the first 111 MR SAQ cases for client review.

MIDUS Refresher SAQ final data was delivered in two installments, 1,436 cases delivered in February, 2013; and 1,177 cases delivered in November, 2014.

#### *Delivery of Cognitive Data*

Cognitive interim data was delivered to researchers at Brandeis regularly throughout the field period. Data deliveries usually occurred biweekly, and consisted of a data file, open ended response, and interviewer notes. MR Cognitive Interview data interim deliveries ran from March, 2012 through October, 2014.

In addition to the data itself, full audio recordings of cognitive interviews were delivered daily via a secure shared drive. Five key demographic variables were delivered regularly for all completed interviews, in addition to interviewer notes on respondent cooperativeness, and interviewer assessments of respondent physical or mental health issues that may have made the interview difficult for the respondent.

This information was used by Brandeis to begin scoring the tasks conducted in the interview and to assess the quality of the data.

MIDUS Refresher Cognitive final data was delivered in two installments. On October 4, 2013, the first 1587 cases were delivered, including 1557 completes and 30 usable partials. On October 3, 2014, an additional 1176 cases were delivered, 1166 completes and 10 usable partials.

All Appendices are available upon request from the MIDUS Administrative Core. Please contact Dr. Barry Radler, University of Wisconsin, at [bradler@wisc.edu](mailto:bradler@wisc.edu).



