Appendix A

CATI Guidelines

I. CATI Background

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a mixed-mode surveillance system that uses mailed surveys as its primary form of data collection. Women who fail to respond to the mailings are followed up by telephone. Telephone follow-up has been shown to increase response rates. The goal of PRAMS is to achieve 100% response; the minimum acceptable response rate is 70% within each sampling stratum. For almost all states participating in PRAMS, the telephone component of data collection is necessary to reach a 70% overall response rate (only four states in 2005 achieved at least 70% response rate by mail alone). Aggregated data from 28 PRAMS states for 2005 show that telephone follow-up increased the overall response rate by 15% (range from 2% to 31%).

Up through 2005, the standard approach for PRAMS was to record telephone interviews on paper. With the implementation of the phase 4 survey in 2000, telephone data entry was conducted with QDS, a commercial data entry application. QDS contains range checks and skip patterns to minimize data entry errors. QDS provides a method for verification of data entry, by comparing the original keyed data to that re-entered by another individual. In addition to entering questionnaire data, any additional comments made by a respondent during a telephone interview were captured with the COMMENT application, developed at the CDC. All comments made in reference to specific questions, as well as general comments regarding maternal and child health, were collected using the COMMENT system. Finally, all operations data are collected in a CDC-developed software application called PRAMTrac. This application assists the state PRAMS staff in monitoring the data collection efforts for each batch of sampled mothers. Both mail and telephone operational information is entered into this system, and PRAMTrac allows operational data gathered during the phone phase, such as details on all call attempts, to be entered in addition to all of the mail operations and final disposition codes. All of these data entry applications were provided to the states and were fully supported by CDC PRAMS.

For many telephone-based research studies, interviews are conducted with a Computer-Assisted Telephone Interviewing (CATI) system. CATI is a method by which the interviewer is able to administer the questionnaire and enter data into an electronic database while the interview is being conducted. CATI eliminates the need for telephone data to be recorded twice, once on paper and then later into the QDS system. Another benefit of using the CATI system is that all introductory scripts, questions and probes are displayed on the interviewer's computer screen based on the flow of the interview. All skip patterns are programmed into the CATI system based on the flow of the mail questionnaire, and this allows for a smoother interview and eliminates the possibility of interviewer error in sequence. Finally a CATI system will provide more

consistency in telephone operations across states by implementing standard coding practices and calling procedures. CDC PRAMS recognized the appeal of using such a system, particularly as more states contract their telephone interviewing to professional interviewing groups who are accustomed to using CATI for their other surveys.

In May 2004, CDC contracted with Research Triangle Institute, Inc. (RTI) to develop and support a standard CATI application for all PRAMS states. RTI has developed a Web-based CATI system. Unlike commercial CATI software that requires the interviewer to have specific CATI software loaded on their computer, Web-CATI is accessed over the Internet. Any computer with an Internet connection can access Web-CATI, allowing much greater portability than commercial CATI products. The Web-CATI system can be used by interviewers employed by the health department or by interviewers working through a contractor.

Most PRAMS states converted to the Web-CATI system in 2006 with the remainder converting in 2007. Currently, all PRAMS states use the Web-CATI system for telephone interviewing. Web-CATI is fully developed and supported by CDC, just as the other data collection applications are supported. CDC and RTI are responsible for initial CATI programming of each state survey whenever there is a questionnaire revision or new states joining PRAMS. The Web-CATI programmers provide ongoing user support for the Web-CATI system including phone and e-mail help desk support as well as a feedback feature called Issue Tracker within the Web-CATI system that users can use to report errors or make suggestions for enhancements.

II. Initial State Setup for the PRAMS Web-CATI System

A. State-specific Materials Required to Set up Web-CATI . The following state-specific documents must be provided to the Web-CATI programmers for the development of each state's Web-CATI system.

i. Paper telephone questionnaire with variable names (also includes skip patterns, variable ranges, and prompts)

ii. Telephone introductory script, which includes all elements of informed consent, answering machine messages, and any special procedures or scripts for special subpopulations.

iii. Spanish versions of telephone questionnaire, introductory script, and answering machine messages (for states using Spanish translations)

iv. Information on state-specific telephone operation procedures such as answering machine policies, refusal conversion policies, calling times, delay times between calls, and special follow-up questions asked at the conclusion of the interview. (This information is contained in protocol task boxes from

each state's PRAMS protocol (especially the Data Collection chapter, Data Management chapter, Human Subjects chapter, Appendix M [Telephone Interviewer Monitoring Procedures], and from task boxes from the Telephone Interviewer Manual.

v. Telephone interview data output file specifications

B. Testing the System. Each state CATI survey undergoes extensive testing before being released to the state for implementation. <STATE> must complete dummy telephone hardcopy surveys including various rare situations to thoroughly test all skip patterns and scenarios. These dummy surveys are sent to CATI programmers to use for their initial testing of the CATI programming. The CATI programmers have several levels of internal testing of each state telephone survey before turning it over to CDC PRAMS staff for testing. CDC conducts separate testing of wording, skip patterns, range checks, and output files. Any errors discovered are corrected by CATI programmers and retested. After CDC has determined that the CATI programming is functioning correctly, the survey is released to <STATE> for practice and further review. Each component of the system should be tested with active participation of state PRAMS staff

C. Training. The Web-CATI contractor conducts initial Web-CATI system training sessions for interviewers and supervisors. Video recordings of the Web-CATI trainings are available for training new staff. State PRAMS staff and contract staff involved with telephone interviewing are required to participate in these trainings. Prior to the trainings, staff should review the PRAMS Web-CATI "How To" manual developed by CDC and RTI that document the Web-CATI system. Supervisors should become familiar with the interviewer procedures and participate in the interviewer training in addition to the supervisor trainings. After training is completed, the Web-CATI programmers will provide a test system for practice and review. After CDC has determined that the Web-CATI programming is functioning correctly, the output files meet designated specifications, and the interviewers have been trained, the interviewers may begin conducting Web-CATI interviews.

The Web-CATI programmers have set up the system so that each user has certain access based on the role and duties related to telephone data operations. The administrator user level is designed for the individual with overall responsibility for PRAMS operations. CDC PRAMS recommends this person be the state PRAMS Project Coordinator. It is possible to have more than one administrator, for example someone at the telephone contract site. This person should be in a supervisory role. The state PRAMS project is responsible for providing this information to the Web-CATI programmers.

D. Responsibilities of State through Development Phase.

i. Work with CDC to finalize and provide state specific materials described in Section II A to Web-CATI programmers.

ii. Create and submit to Web-CATI programmers dummy telephone surveys following the guidelines provided by CDC.

iii. Develop a data sharing agreement that will be in effect between <STATE> and the CDC CATI contractor. (See **Appendix W** for prototype Data Sharing Agreement). The data sharing agreement should be developed in conjunction with the Vital Records Department, Legal Department, and any other health department officials that need to be involved in this process. The data sharing agreements lays out the provisions for <STATE> housing identifiable data on the CDC CATI contractor server and provides assurances that the CDC CATI contractor will take appropriate security precautions to protect the confidentiality of state data.

iv. Select preferred monitoring procedures for Web-CATI interviews from among the available monitoring options (See **Appendix M** for telephone monitoring procedures). Purchase necessary equipment to conduct monitoring.

v. Assign each state and contract person involved with the telephone surveillance phase a user level appropriate for their responsibilities.

Protocol Development Task

In order for the CATI programmer to set up access to the CATI system in the state, the state project must first designate someone to be the administrator of the state's accounts. The administrator is responsible for setting up all the other CATI user accounts for staff in the state. Also, the administrator is the only person who can delete data from the CATI system. The administrator has access to all features of the CATI system. Typically this would be the PRAMS Project Coordinator. However, in states that contract out all data collection, it may be someone from the contract organization. More than one person can be set up with administrator privileges in a state.

Identify the state PRAMS staff and contractors with access to the CATI system and the access privileges assigned to each.

vi. Thoroughly review and test the introductory script and the entire CATI questionnaire (including Spanish versions if used) to ensure all wording and skip patterns are correct.

vii. Conduct CATI supervisor and interviewer training with appropriate state and contractor staff. All staff should receive the Web-CATI training via webcast or video, review and become familiar with the PRAMS Web-CATI "How to" Document which serves as the user documentation, and review the Telephone Interview Manual that documents how the Web-CATI system should be used in carrying out the PRAMS protocol. These CATI training materials should be covered in addition to the standard telephone interviewer trainings.

viii. Allow staff sufficient time to practice using the CATI system prior to implementation of CATI data collection so that they become familiar with its use.

ix. Have hardcopies of the telephone introductory script and the telephone questionnaire available for special circumstances where the Web-CATI system cannot be used. **(See Chapter 5, Section 7.d)**

III. Ongoing Implementation and Operation of the PRAMS Web-CATI System

i. Promptly notify CDC and the Web-CATI programmers of any errors or changes to the telephone survey or to the state-specific sections of the introductory script, such as a change in the name and number of a contact person for the project or the IRB. **(See Chapter 10, Section 2, the Development Task box)**

ii. Assure that <STATE> PRAMS staff and contractors are properly using the Web-CATI system and correctly following the PRAMS protocol.

iii. Assure that a supervisor is monitoring at least 10% of the time that interviewers are placing calls. Monitoring reports should be submitted to the state along with the survey, comment, and operations data for each batch. Example monitoring forms are available in **Appendix M (Telephone Interviewer Monitoring Procedures)**.

iv. Review reports generated by the Web-CATI system to monitor batch progress such as summary status reports, telephone disposition report, number of completed telephone interviews, and other information. Establish communication channels to provide feedback to interviewers.

v. Establish and maintain procedures to ensure there is sufficient communication between supervisors and interviewers and among interviewers to coordinate calls across interviewers and to properly attend to cases that require special follow-up.

vi. Update user accounts to remove staff that have left the project to prevent unauthorized access to the CATI system.

IV. CATI Questionnaire Revision

In the event of a questionnaire revision, the following steps from **Section II Development of the CATI system** would need to take place prior to implementation of the revised questionnaire:

- A.i, A.ii (if applicable), A.iii, A.v
- B
- D.i, D.ii, D.vi, D.viii, D.ix

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