

SUPPORTING STATEMENT PART B FOR

**Revision to OMB Number 0584-0580
WIC Infant and Toddler Feeding Practices Study-2 (WIC ITFPS-2):
Age 5 Extension**

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Table of Contents

<u>Part</u>	<u>Page</u>
B Collections of Information Employing Statistical Methods.....	1
B.1 Respondent Universe and Sampling Methods.....	1
Respondent Universe.....	1
Sampling Methods.....	2
Response Rates and Non-Response Bias Analysis.....	2
B.2 Procedures for the Collection of Information.....	3
Statistical Methodology for Stratification and Sample Selection.....	4
Procedures for Conducting Interviews.....	4
Degree of Accuracy Needed for the Purpose Described in the Justification.....	4
Estimation Procedures.....	5
Estimation and Calculation of Sampling Errors.....	6
Unusual Problems Requiring Specialized Sampling Procedures.....	6
Any use of Periodic (less frequent than annual) Data Collection Cycles to Reduce Burden.....	7
B.3 Methods to Maximize Response Rates and to Deal with Issues of Nonresponse.....	7
WIC State and Local Administrators and Their WIC Sites.....	7
WIC Participants.....	7
B.4 Test of Procedures or Methods to be Undertaken.....	9
B.5 Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data.....	10

Appendices

- A1 Study extension flyer to age 5 – English
- A2 Study extension flyer to age 5 – Spanish

- B1 Study Extension Consent Age 2.5 to 5 - English
- B2 Study Extension Consent Age 2.5 to 5 - Spanish

Appendices (continued)

- C1 36-month survey: contact information module - English
- C2 36-month survey: contact information module - Spanish
- D1 39-, 45-, 51-, and 57-mo contact information form - English
- D2 39-, 45-, 51-, and 57-mo contact information form - Spanish
- E1 42-mo advance letter - English
- E2 42-mo advance letter - Spanish
- F1 42-month telephone survey - English
- F2 42-month telephone survey - Spanish
- G1a Reminders for non-locatable no active interview - English
- G1b Reminders for non-locatable no active interview - Spanish
- G2a Reminders for non-locatable active interview - English
- G2b Reminders for non-locatable active interview - Spanish
- G3a Reminders for study participation refusal conversion - English
- G3b Reminders for study participation refusal conversion - Spanish
- G4a Reminders for study participation not answering calls - English
- G4b Reminders for study participation not answering calls - Spanish
- G5a Reminders for Telephone Research Center voicemail, first message - English
- G5b Reminders for Telephone Research Center voicemail, first message - Spanish
- G6a Reminders for Telephone Research Center voicemail, expiring interviews - English

G6b Reminders for Telephone Research Center voicemail, expiring interviews - Spanish

G7a Reminders for interview from Study Liaison - English

G7b Reminders for interview from Study Liaison - Spanish

Appendices (continued)

- G8a Reminders for contact information form - English
- G8b Reminders for contact information form - Spanish
- G9a Reminders for consent - English
- G9b Reminders for consent - Spanish
- G10a Letter to study refusals - English
- G10b Letter to study refusals - Spanish
- G11a Height and weight reminders - English
- G11b Height and weight reminders - Spanish
- H1a 42-mo thank you - English
- H1b 42-mo thank you - Spanish
- H2a 48-mo thank you - English
- H2b 48-mo thank you - Spanish
- H3a 54-mo thank you - English
- H3b 54-mo thank you - Spanish
- H4a 60-mo thank you - English
- H4b 60-mo thank you - Spanish
- I1 48-mo advance letter - English
- I2 48-mo advance letter - Spanish
- J1 48-month telephone survey - English
- J2 48-month telephone survey - Spanish
- K1 48-and 60-mo HT/WT measurement card - English

K2 48-and 60-mo HT/WT measurement card - Spanish

Appendices (continued)

- L1 48-and 60-mo HT WT measurement letter - English
- L2 48-and 60-mo HT/WT measurement letter - Spanish
- M1 HIPAA letter and form - English
- M2 HIPAA letter and form - Spanish
- N1 48- and 60-mo text or email provider measures - English
- N2 48- and 60-mo text or email provider measures - Spanish
- O1 48- and 60-mo home health agency visit - English
- O2 48- and 60-mo home health agency visit - Spanish
- P1 54-mo advance letter - English
- P2 54-mo advance letter - Spanish
- Q1 54-month telephone survey - English
- Q2 54-month telephone survey - Spanish
- R1 60-mo advance letter - English
- R2 60-mo advance letter - Spanish
- S1 60-month telephone survey - English
- S2 60-month telephone survey - Spanish
- T1a Birthday card respondent year 4 - English
- T1b Birthday card respondent year 4 - Spanish
- T2a Birthday card child age 4 - English
- T2b Birthday card child age 4 - Spanish
- T3a Birthday card respondent year 5 - English

T3b Birthday card respondent year 5 - Spanish

Appendices (continued)

- T4a Birthday card child age 5 - English
- T4b Birthday card child age 5 - Spanish
- U Burden Table
- V Study extension webinar slides
- W1 Agenda for State Agency conference calls
- W2 Agenda for WIC site conference calls
- X1 Study extension announcement to WIC State Agencies
- X2 Study extension announcement to WIC Sites
- Y1 Letter to State Agencies and Sites
- Y2 Addendum A to State Agency letter
- Y3 Addendum B to State Agency Letter for WIC administrative data
- Z WIC Site participant contact information request
- AA Provider data request form
- BB Research question crosswalk
- CC Confidentiality and nondisclosure agreement
- DD1 Federal Register Notice Comment 1
- DD2 Federal Register Notice Agency Response to Comment 1
- DD3 Federal Register Notice Comment 2
- DD4 Federal Register Notice Comment 3
- EE1 NASS Review
- EE2 NASS Review Response

FF Westat IRB Approval Letter

Contents
(continued)

Appendices (continued)

GG Details of Imputation, Calculation of the Survey Weights, and
Nonresponse Bias Analysis

HHa 13-Month Food Model Booklet Letter - ENGLISH

HHb 13-Month Food Model Booklet Letter - SPANISH

II Crosswalk of previously approved and revised materials

Tables

B2.1Expected completed interviews and response rates
.....5

Part B

Collections of Information Employing Statistical Methods

B.1 Respondent Universe and Sampling Methods

Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

Respondent Universe

The respondent universe for the Age 5 Extension includes infants enrolled in the base cohort. The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) Infant and Toddler Feeding Practices Study-2 (ITFPS-2) uses a longitudinal design and the revision will continue to gather data from mothers/caregivers about their 42-, 48-, 54-, and 60-month old children via a telephone survey (Appendices F1, F2, J1, J2, Q1, Q2, S1, and S2) and will collect height and weight data from WIC administrative records, healthcare providers, or direct measurements at WIC site offices (Appendices K1, K2, L1, L2, M1, M2, N1, N2, O1, O2, X1, X2, X3, and Z).

As described in Section B.2, our base cohort sample was designed to obtain minimum detectable differences (MDDs) of 5 to 10 percentage points

between subgroups of interest at the originally planned final measurement of 24 months. Previously (as part of an earlier extension), we projected our current sample will yield 2,444 completed 36-month interviews. Based on that figure, with the expansion of the study to 60 months, we expect to complete 2,319 42-month interviews; 2,200 48-month interviews; 2,087 54-month interviews; and 1,980 60-month interviews, assuming 10 percent annual attrition from the 24-month interview.¹ The projected sample sizes at 60 months are expected to yield MDDs of 6 to 13 percentage points between subgroups of interest for estimates at 60 months.

WIC program representatives in the WIC State and Local Agencies will provide important information to the study. A total of 27 State WIC administrators and 80 local WIC site staff will continue to support data collection efforts for the Age 5 Extension. Finally, we anticipate contacting 418 health care providers to obtain height and weight data for children who have discontinued their participation in WIC and are unable to revisit the WIC site office for measurements.

Sampling Methods

The Age 5 Extension will continue to collect data from participants that were recruited in the base study; no additional sampling will be undertaken.

¹The ITFPS-2 annual attrition rate between birth and 1 year of age was 7.3%; between the first and second birthdays, the attrition rate was 9.3%.

Response Rates and Non-Response Bias Analysis

We have undertaken many steps, both in already completed activities and for future activities, to ensure high response rates and reduce the risk of nonresponse bias. Full time study liaisons (SLs) serve as personalized points-of-contact for our respondents. We provide incentives for study activities, increasing them incrementally to communicate that we continue to value our respondents. We strive to ensure flexibility in the time at which interviews are completed, and to express our appreciation of participants through thank-you notes and recognizing birthdays. These efforts are described further in Section B.2.

This longitudinal data collection is ongoing, with participants still completing base study interviews. Consequently, we present response rates for interviews that have already been completed and for which weighted response rates are available. In the base study, the response rates of the base cohorts to the first several postnatal interviews are as follows: 85 percent for the 1 month interview; 88 percent for the 3-month interview; 83 percent for the 5-month interview; 80 percent for the 7-month interview; 79 percent for the 9-month interview; 75 percent for the 11 month interview; and 72 percent for the 13-month interview. The expected response rate of the base cohort to the 24-month interview, which is in its early stages of fielding, is 67 percent. The 30-month interview has just begun, and the 36-month interview has not yet begun. Based on expected response rates for 24-months, projected response rates for the 42-, 48-, 54, and 60-month

interviews in the Age 5 Extension are 57 percent, 54 percent, 51 percent, and 49 percent, respectively. To the extent that respondents in the Age 5 Extension are systematically different from the population as a whole with respect to characteristics used in an analysis, the potential for nonresponse bias exists.

We will use the approach proposed in the base study, which is to examine bivariate cross tabulations of data available for the eligible, enrolled cohort by response status at the 60-month interview to check for evidence of nonresponse bias in the 60-month interview. Details of the calculation of nonresponse are found in Appendix GG of this submission, a reprint of an appendix originally submitted with the supporting statement for the Base study, ICR Reference No. 201208-0584-002 and 201306-0584-008; Expiration date: 05/31/2016.

B.2 Procedures for the Collection of Information

Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**
- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Statistical Methodology for Stratification and Sample Selection

The Age 5 Extension will continue to collect data from participants that were recruited in the base study; no additional sampling will be undertaken.

Procedures for Conducting Interviews

Respondents will be contacted and interviewed using the same procedures that have proven successful thus far for them in this longitudinal study. As described in section B.3, respondents will receive advance letters informing them of upcoming interviews (Appendices E1, E2, I1, I2, P1, P2, R1, R2). The window for each interview is six weeks long, and during that time highly trained interviewers who have been with the study since its inception will make outbound calls to respondents during varying days and time periods. Respondents are also offered the opportunity to make inbound toll-free calls to complete interviews at their convenience, or they can request outbound appointment calls. As is sometimes necessary with parents of young children, interviewers are trained to allow breaks for interruptions in the respondents' environments, or to schedule call-backs to complete interviews not finished due to interruptions.

Degree of Accuracy Needed for the Purpose Described in the Justification

The sample size requirements for the WIC ITFPS-2 base study were determined based on power projections and precision requirements for estimates at 12 and 24 months. Table B2.1 shows our projected sample sizes

and response rates at the interviewing stages that are part of this extension study (namely, the 42-, 48-, 54-, and 60-Month interviews) as well as the earlier extension study (the 30- and 36-Month interviews) over time. The projected sample sizes for the 24-Month interview (which is part of the base study) are also given, and are based on the actual consented and enrolled mothers/caregivers of live infants in the sample, since these formed the basis for extending the projections through to 60 months. The response rate assumptions (attrition of 10% per year) for each of these interviews are shown in the “Rates” column. The rates shown are computed as the number of completed interviews divided by the cohort size (4,046).

Table B2.1. Expected completed interviews and response rates

Mother infant events/interviews		Completed interviews^a	Rates
Cohort	Total live infants consented & enrolled pre/post-natal ^b	4,046	
	24-Month (Base study)	2,716	67%
	30-Month	2,580	64%
	36-Month	2,444	60%
	42-Month	2,319	57%
	48-Month	2,200	54%
	54-Month	2,087	51%
	60-Month	1,980	49%
	Total interviews in 5-Year Extension study ^c	8,586	

^a Numbers of completed interviews are projections based on the full consented/enrolled sample

^b Total live births in base study cohort

^c Total of 42-, 48-, 54-, and 60-month samples (24-month interview is part of Base study, and 30- and 36-month interviews were part of the Age 3 extension)

Estimation Procedures

The estimation procedures for the extension are the same as those for the base study. We plan to use standard design-based methods for estimation and variance estimation that will lead to confidence intervals on means and percentages, and hypothesis tests on contrasts of means and percentages. We will prepare a separate set of cross-sectional weights for each wave of data collection, including the 42-, 48-, 54-, and 60-month interviews. The only respondents that will receive a positive weight for a wave will be those who responded to the wave. Weighting will be used to adjust for nonresponse to the initial interview and to adjust for attrition and other nonresponse that results in failure to complete the particular interview. Additionally, a few sets of longitudinal weights (which weight up respondents to particular combinations of interviews) will be developed for specific analyses. Imputation will be used to fill in scattered item nonresponse within completed interviews.

We will develop sampling weights aimed at yielding nearly unbiased estimates of population parameters. Although the base study includes separate sets of weights for analyses of the core sample by itself, all interviews in this extension will be administered to both the core and supplemental samples. Thus, all cross-sectional weights for this extension will be developed for joint analyses of the core and supplemental sample samples. Details of the calculation of the weights and of nonresponse bias analysis are found in Appendix GG.

Estimation and Calculation of Sampling Errors

All WIC ITFPS-2 data files, including those associated with this extension, will contain the information necessary for analysts to use either replication or Taylor series linearization methods to compute standard errors of estimates. For this study, 40 replicates were created, and the replication approach used was a modified balanced repeated replication (BRR) method suggested by Fay,² with $K=0.3$ (K is the perturbation factor known as “Fay’s factor”). To appropriately reflect the effects of the various stages of weighting on the variances of survey estimates,³ the procedures used to compute the full-sample weights will be repeated for each of the replicates.

Unusual Problems Requiring Specialized Sampling Procedures

No specialized sampling procedures are involved.

Any use of Periodic (less frequent than annual) Data Collection

Cycles to Reduce Burden

All data collection activities described in this extension will occur within a 39 month period. The study design requires that respondents be surveyed at multiple times, as described in Section B.1.

²Judkins, D. (1990). Fay’s method for variance estimation. *Journal of Official Statistics*, 6, 223-239.

³Ernst, L.R., and Williams, T.R. (1987). Some aspects of estimating variances by half-sample replication in CPS. *Proceedings of the Section on Survey Research Methods of the American Statistical Association*, pp. 480-485.

B.3 Methods to Maximize Response Rates and to Deal with Issues of Nonresponse

Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield “reliable” data that can be generalized to the universe studied.

WIC State and Local Administrators and Their WIC Sites

The 27 State Agencies and 80 WIC sites recruited for the base study will be invited to attend a 1-hour webinar that will share information on the study extension and highlight FNS-cleared key study findings to date (Appendix V). After the webinar, individual conference calls will be made with each State Point of Contact (POC) to discuss the study extension and the possibility of participants returning to any WIC site in the State to have their child’s height and weight measured at 4 and 5 years of age (Appendix W1). We will then conduct conference calls with State POC and representatives from the original 80 sites to discuss the study extension in more detail, including the logistics of conducting measurements of height and weight at individual WIC sites (Appendix W2).

WIC Participants

Successful retention of our sample for the extended study hinges on our ability to make participants want to continue in the study and our ability to locate participants over time. While many participants become more committed to the study with each interview they complete, others

experience survey fatigue which may overwhelm their interest in continuing. We will employ these strategies to retain as many members of the sample as possible through the 60-month interview:

1. **Keep Respondents Informed and Excited About the Study.** Send a glossy flyer that details the extension of the study to the child's 5th birthday (Appendices A1 and A2).
2. **Utilize Study Liaisons Who Serve as the Point-of-Contact for the Study.** Full-time study liaisons (SLs), who have been the points-of-contact for our respondents since the start of the study, will continue to answer respondent questions, offer encouragement for continued study participation, remind participants about expiring interviews (Appendices G7a, G7b), help participants identify the nearest WIC office for height and weight measurements (Appendices G11a, G11b), and trace respondents whose phone numbers and/or addresses have changed. SLs will also conduct refusal conversion, following up on standard study refusal conversion letters (Appendices G3a, G3b, G10b, G10b), as their longstanding relationships with participants help them in discussing and addressing personal circumstances that may interfere with participation.
3. **Provide an Incrementally Larger Incentive for Each Interview and Child Measurement.** We will increase the incentive for each interview in increments of \$5 per interview (from \$45 to \$60) to help combat survey fatigue, and continue to provide incentives to address personal cellphone costs for interviews. We will also increase the incentives for taking the child for measurements (\$50/60 plus \$10 for transportation costs) to better recognize the effort and commitment required to take a child to be measured. We will increase the incentive for permission to seek, or provision of, provider measures as well, to further leverage the 10 percent increase in HIPAA authorizations we

saw when return of those was modestly incentivized. The increased incentives will recognize the value of irreplaceable longitudinal participants who stay with the study for the longer time period.

4. Incentivize Respondents to Update Their Contact Information.

Ask participants to update their contact information when their children are 39-, 45-, 51- and 57-months old, and provide a \$5 incentive for providing this information (Appendices D1, D2).

5. Attempt Interviews at Different Times of the Day and Week.

Use telephone call scheduling procedures to call numbers at different times of the day (between 9 am and 9 pm in the respondent's time zone) and week (Sunday through Saturday) during the 42 day window, to improve the chances of interviewing participants. When participants cannot be reached, leave voice mail messages periodically and provide a toll-free call-in number that participants can use to complete the interview (Appendices G5a, G5b, G6a, G6b).

6. Encourage Participants to Call In.

Send advance letters a few days before the start of each interview to remind participants about the upcoming interview and provide the toll-free call-in number and hours the telephone center is open to encourage them to call in to complete the interview at their convenience (Appendices E1, E2, I1, I2, P1, P2, R1, R2).

7. Send Texts and Reminder Emails 10 Days After Start of the Window.

Send out reminder texts or emails on the 10th day of the interviewing window to respondents who have not yet completed their interviews (Appendices G7a, G7b).

8. Contact Participants Whose Interview Windows are Expiring.

The study liaisons will continue to make reminder calls and send reminder emails and texts (Appendices G2a, G2b, G4a, G4b, G7a, G7b) to

participants whose interview windows are within 2 and then 1 week of expiring.

9. **Send Birthday Cards to Participating Caregivers and Children.** As part of the ongoing relationship building, the study liaisons will send birthday cards, either printed or electronic, to participants (Appendices T1a, T1b, T3a, T3b). When the children reach age 4 we will also send birthday cards to the children (Appendices T2a, T2b, T4a, T4b).
10. **Send Thank you notes.** Send electronic thank you notes after each interview, thanking participants for their continued engagement (Appendices H1a to H4b).

Details of projected response rates, and methods to address the potential for nonresponse bias, are discussed in section B.1.

B.4 Test of Procedures or Methods to be Undertaken

Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

The majority of items that will be included in the interviews at 42, 48, 54, and 60 months have either been cognitively tested for previously approved interviews on this study or drawn from other established studies. Consequently, testing was done only through simulation by Westat survey experts to evaluate timing and flow of the 42- and 54-month interviews in

English and in Spanish, confirming that the flow is logical and the estimated timing is accurate. Because the 48- and 60-month interviews contain only a well-validated 24-hour dietary recall module and socio-demographic and background questions that have been asked previously, we will not pretest the 48- and 60-month interview questions separately.

B.5 Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

Name	Affiliation	Telephone number	e-mail
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