# Appendix B1

# Details of Sampling and Weighting Procedures and Attrition

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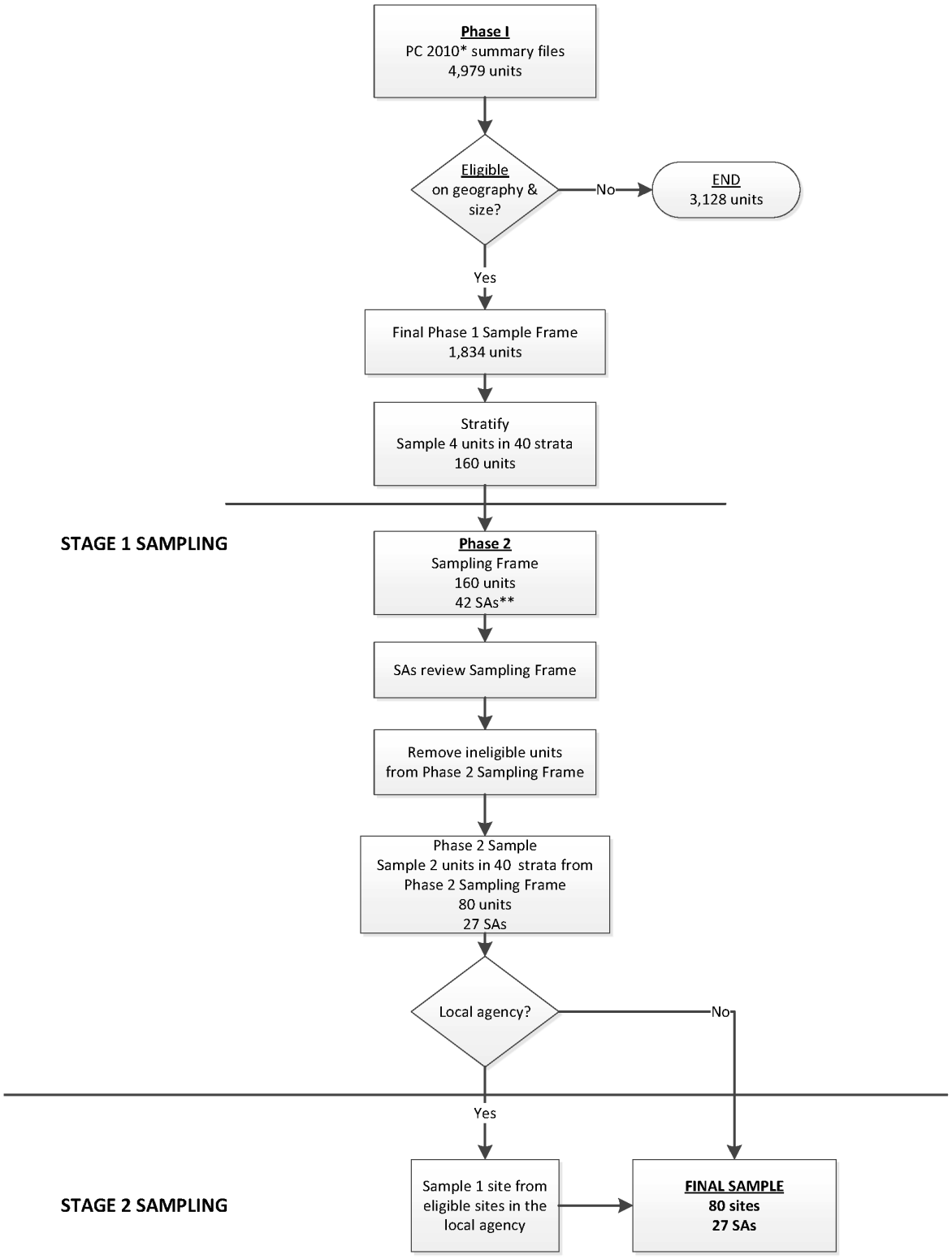
# Details of Sampling and Weighting Procedures and Attrition

## B1.1 Selection of WIC Sites

The WIC service sites were selected using a stratified two-stage sampling approach. Because no national list of service sites exists, we used, as a sampling frame, a summary file at the level of the unit reported by each State Agency (SA) in the census of April 2010 (the WIC Participant and Program Characteristics 2010, or PC 2010). This census resulted in a file with one record for each participant being served by WIC in that month. Because State Agencies had flexibility for PC 2010 for reporting service location identifiers, the IDs provided in the records by the State Agencies varied; some State Agencies provided the site ID in addition to a local agency code, whereas other State Agencies included only a local agency code. As a result, two stages of selection were used to sample sites. The first stage involved the sampling of "PC 2010 tabulation units"—the units for which IDs were provided in the PC 2010 data. The second stage involved the sampling of sites for situations in which the sampled tabulation unit was a local agency. (For the remainder of this report, these tabulation units will be referred to, using standard statistical terminology, as "first-stage" sampling units.) Additionally, because the information needed to determine final eligibility of sites (namely, current enrollment information and whether the site was expected to be operational during the study recruitment period) was not available in the PC 2010 data, the first-stage sample was selected in two phases in order to contact SAs to obtain additional eligibility information about the sites. The ultimate goal was the selection of 80 WIC sites. Figure B1-1 is a flowchart that gives a general overview of the WIC site sampling process.

## Figure B1-1. Overview of WIC site sampling process




* PC 2010=WIC Participant and Program Characteristics 2010.
** SAs=WIC State Agencies.

As shown in Figure B1-1, Phase 1 of Stage 1 involved the selection of 4 first-stage sampling units in each of 40 strata to create a Phase 2 sampling frame of 160 units. Stratification involved partitioning the sampling frame into four homogeneous groups and was used to improve the precision of estimates and to ensure representation in the sample of different types of sites. In Phase 2 of Stage 1, we contacted SAs to determine the eligibility of each of the units sampled in the first phase and then sampled two units from among the eligible first-stage sampling units in each stratum for a total of 80 units. In Stage 2, we sampled the service sites within the sampled units that were local agencies (rather than service sites) and selected one site from each local agency.

Site eligibility was defined in terms of enrollment flow. A minimum average flow of 1.5 new enrollees per day was required for a site to be eligible and ensure a sufficient volume of participants. Additionally, to ensure that recruitment could be completed within the study recruitment period, we imposed a restriction requiring that eligible sites yield the target number of eligible enrollees within a 4-month period.

Following the completion of the sampling of sites for the study, we began site recruitment efforts in earnest to eliminate the adverse effects of site-level nonresponse on sample yield. Sampled service sites that were unable to participate in the study were replaced by members of a matched sample.

## B1.2 Construction of the Sampling Frame

The sampling frame was constructed from the WIC PC 2010 dataset. PC 2010 data were provided in a total of 90 individual SAS data files—one for each WIC SA. The Food and Nutrition Service (FNS) provided the PC 2010 data in October 2011. Once received, Westat's subcontractor, Altarum, merged all 90 files into a single analytic file. Altarum thoroughly reviewed the PC 2010 documentation to familiarize themselves with each field and to identify fields required for developing the first-stage sampling frame file, including the following variables that they derived from information provided in the PC 2010 database:

- Unit (i.e., a unique identifier for the PC 2010 tabulation unit described in Section B1.1, which was either the WIC site or the local agency);
- Unit Source;
- Number of Exclusively Breastfeeding Women;

- Number of Postpartum Women, Not Breastfeeding;
- Number of Prenatal Women Enrolled in April 2010 (PC 2010 reference month);
- Number of Infants Under Age 3 Months Enrolled in April 2010;
- Total Number of Infants Enrolled in April 2010;
- Percentage of Infants Enrolled in April 2010 Who Were Under Age 3 Months;
- Total Number of Participants (all categories);
- Number of Women Participants Under Age 18 Years in April 2010;
- Number of Women Participants Under Age 16 Years in April 2010;
- Percentage of Women With High Weight for Height Risk Code; and
- Percentage of Children With High Weight for Height Risk Code.

## B1.3 Stage 1 Sampling: Selection of the Phase 1 Sample

The Stage 1 sampling was conducted in two phases. The process used to select the Phase 1 sample involved three steps: computation of the measure of size (MOS) used for Phase 1 selection, exclusion of ineligible units, and stratification and selection of the units.

### B1.3.1 Measure of Size Computation

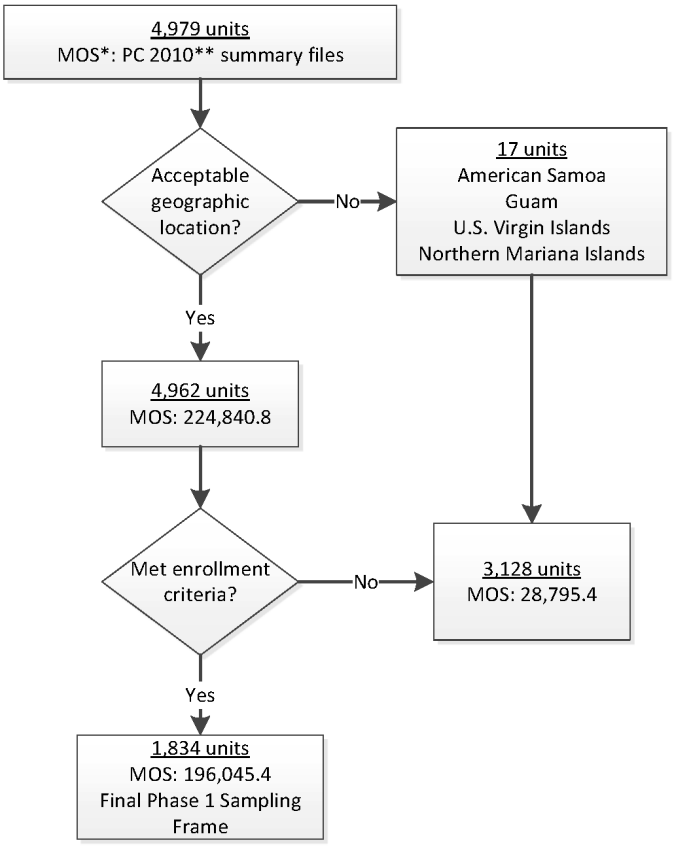
The sample design involved sampling sites with probabilities proportional to an MOS (i.e., probability proportional to size [PPS] sampling). For the Phase 1 sample, the MOS was the expected number of eligible enrollees for the first-stage sampling unit, based on the April 2010 enrollment counts from the PC2010. That is, the MOS was calculated for each first-stage sampling unit by summing the total prenatal enrollment and 20 percent of the total enrollment of infants less than 3 months.[1] Based on the aforementioned eligibility considerations, units with a value less than 30 for this MOS (i.e., less than 1.5 enrollees per day, assuming 20 enrollment days per month) were considered ineligible.

[1] The 20 percent figure is based on an estimate from the *Early Childhood Longitudinal Study-Birth Cohort* that 20 percent of infants enrolled in WIC were not enrolled prenatally.

### B1.3.2 Exclusion of Ineligible Units

As shown in Figure B1-2, a total of 4,979 units appeared on the PC 2010 summary file that served as the basis for creating the sampling frame. Of these, a very small proportion (17 units) was dropped because of geographic location (American Samoa, Guam, Northern Mariana Islands, and U.S. Virgin Islands). Since the units in these territories represented only 0.3 percent of the total sampling frame, this did not impact the representativeness of the frame. The remaining 4,962 units had a total MOS of 224,840.8. Of these, 3,128 units (with a total MOS of 28,795.4, about 12.8% of the total among geographically eligible units) were dropped because their MOS value was less than 30. As a result, the final Phase 1 sampling frame contained a total of 1,834 units, with a total MOS of 196,045.4.

**Figure B1-2. Exclusion of ineligibles from unit selection process**




* MOS=measure of size.
** PC 2010=WIC Participant and Program Characteristics 2010.

### B1.3.3 Stratification and Selection of the Phase 1 Sample

As noted above, the sample was designed to yield 80 sampled service sites. To achieve this, a total of 40 strata were formed, and ultimately (after 2 phases of selection) two sites were sampled from each of these strata. Five characteristics of the first-stage sampling unit or its SA were used to form the strata (note that the first 3 of these 5 characteristics are features of the WIC State Agency Plan that were used to group the WIC SA programs into categories):

- **Peer Counseling Program.** Whether the SA has a breastfeeding peer counseling program in place.[2]
- **Trained Paraprofessionals.** Whether SA policy allows for trained paraprofessionals to provide nutrition education (vs. requiring that staff that provide nutrition education have professional training or credentials).
- **Policy to Provide Formula.** Whether SA policy is to provide one can of formula for breastfeeding infants during the first 30 days of life.
- **Percentage of Women Who Used Fully Breastfeeding Package.** This variable was an estimate of the percentage of women in the first-stage sampling unit who utilized the fully breastfeeding food package during the postpartum period. The PC 2010 data were used to measure food-package selection by first-stage sampling unit, and this rate was computed by taking the ratio of the number of postpartum women who received the fully breastfeeding package during April of 2010 to the total number of postpartum women receiving any food package that same month.
- **Average of Children's and Mothers' High Weight for Height Rates.** The PC 2010 data were used to estimate the percentages of children and of mothers who are "high weight for height"[3] at the first-stage sampling unit level, and these percentages were averaged together to get a measure of risk of being overweight for all participants at the first-stage sampling unit level.

Using these characteristics (i.e., combinations of different levels of these variables), the first-stage sampling units were grouped to form 40 fairly homogenous strata of roughly equal size (in terms of total MOS). Specifically, the first-stage sampling units in a given stratum all came from SAs in the

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[2] It turned out that there was no variation in this characteristic; all states reported offering a breastfeeding peer counseling program.

[3] For children (12 months or older), "high weight for height" is determined based on nutrition risk code 110. For children 24 months and older, it is defined as higher than the 95th percentile of body mass index (BMI) for age. For children 12 to 24 months, it is defined as at risk of being overweight by virtue of having a mother or father who is obese (BMI of 30 or greater). For mothers, the criterion is a pregravid BMI of 25 or higher.

same WIC State Agency Plan classification (based on the 3 SA Plan characteristics discussed above) and, to the extent possible, had similar fully breastfeeding and "high weight for height" rates.

One first-stage sampling unit (PHFE-WIC, in California) was, by itself, large enough (in terms of the total MOS) to constitute a stratum. That is, this unit (a local agency) was a certainty stratum, meaning that the unit was included in the first-stage sample with certainty. The service sites associated with the local agency were enumerated and sampled as described below.

Table B1-1 presents a tabulation of how the strata were defined. Specifically, each particular combination shown in the (1) cross-tabulation of the features of the WIC SA plan, (2) exclusively breastfeeding range, and (3) high weight for height range, constitutes a stratum. This tabulation shows, for each stratum, the total MOS, the number of units on the sampling frame, the number of units selected in the first phase, the number of sampled Phase 1 units that were eligible for Phase 2 selection, and the number of units sampled in the second phase. Each of the counts of units was broken down by local agencies and individual sites.

Besides the certainty stratum, there were a few cases in which a particular first-stage sampling unit was sufficiently large to be sampled with certainty in the first phase of selection; that is, the unit's MOS was greater than one-fourth of the total MOS for its stratum, so that its probability of selection in a PPS design was 1.

Table B1-1. Definitions of the strata used for site sampling and key sampling statistics by stratum

| Stratum ID | Features of the state WIC program | % of women who used fully breastfeeding package | Children's and mothers' high weight for height rates (%) | Total stratum measure of size | Number of: Units on frame: Total | Units on frame: Agencies | Units on frame: Sites | Phase 1 units sampled: Total | Phase 1 units sampled: Agencies | Phase 1 units sampled: Sites | Phase units sampled eligible for Phase 2: Total | Phase units sampled eligible for Phase 2: Agencies | Phase units sampled eligible for Phase 2: Sites | Phase 2 units sampled: Total | Phase 2 units sampled: Agencies | Phase 2 units sampled: Sites |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | Does the state operate a breastfeeding peer counseling program? YES<br>Does the state require that general nutrition education be provided by a professional staff member (e.g., dietitian, nurse)? NO<br>Is infant formula issued in the first month to partially breastfed infants? NO | 0–10.5691 | 0–36.7147 | 4,997.2 | 65 | 1 | 64 | 4 | 0 | 4 | 4 | 0 | 4 | 2 | 0 | 2 |
| 102 | | 0–10.5691 | 36.7147–45.9689 | 4,952.0 | 62 | 0 | 62 | 4 | 0 | 4 | 3 | 0 | 3 | 2 | 0 | 2 |
| 103 | | 10.5691–14.4928 | 0–35.5971 | 4,994.0 | 61 | 4 | 57 | 4 | 0 | 4 | 4 | 0 | 4 | 2 | 0 | 2 |
| 104 | | 10.5691–14.4928 | 35.5971–44.0943 | 5,000.0 | 49 | 3 | 46 | 4 | 0 | 4 | 3 | 0 | 3 | 2 | 0 | 2 |
| 105 | | 14.4928–20.3863 | 0–33.5319 | 4,973.4 | 66 | 4 | 62 | 4 | 0 | 4 | 4 | 0 | 4 | 2 | 0 | 2 |
| 106 | | 14.4928–20.3863 | 33.5319–44.3548 | 4,980.8 | 63 | 9 | 54 | 4 | 1 | 3 | 2 | 0 | 2 | 2 | 0 | 2 |
| 107 | | 20.3863–63.5838 | 0–30.7242 | 5,019.4 | 59 | 28 | 31 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 1 | 1 |
| 108 | | 20.3863–63.5838 | 30.7242–33.0749 | 4,988.0 | 43 | 16 | 27 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 1 | 1 |
| 109 | | 20.3863–63.5838 | 33.0749–35.2011 | 4,999.6 | 52 | 14 | 38 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 1 | 1 |
| 110 | | 20.3863–63.5838 | 35.2011–52.7565 | 4,968.4 | 67 | 22 | 45 | 4 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 |
| 200 | Does the state operate a breastfeeding peer counseling program? YES<br>Does the state require that general nutrition education be provided by a professional staff member (e.g., dietitian, nurse)? NO<br>Is infant formula issued in the first month to partially breastfed infants? YES | 0–100 | 0–100 | 6,340.4 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 201 | | 0–14.2857 | 0–28.7699 | 4,874.6 | 64 | 14 | 50 | 4 | 1 | 3 | 4 | 1 | 3 | 2 | 0 | 2 |
| 202 | | 0–14.2857 | 28.7699–30.9995 | 4,905.0 | 47 | 11 | 36 | 4 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 1 |
| 203 | | 0–14.2857 | 30.9995–33.0338 | 4,839.8 | 47 | 10 | 37 | 4 | 1 | 3 | 3 | 1 | 2 | 2 | 0 | 2 |
| 204 | | 0–14.2857 | 33.0338–34.1299 | 4,913.8 | 45 | 14 | 31 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 1 | 1 |
| 205 | | 0–14.2857 | 34.1299–35.0733 | 4,893.4 | 48 | 12 | 36 | 4 | 1 | 3 | 4 | 1 | 3 | 2 | 1 | 1 |
| 206 | | 0–14.2857 | 35.0733–35.8987 | 4,853.8 | 45 | 17 | 28 | 4 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 1 |
| 207 | | 0–14.2857 | 35.8987–36.6585 | 4,881.4 | 45 | 18 | 27 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 2 | 0 |
| 208 | | 0–14.2857 | 36.6585–37.5487 | 4,868.6 | 40 | 18 | 22 | 4 | 4 | 0 | 4 | 4 | 0 | 2 | 2 | 0 |
| 209 | | 0–14.2857 | 37.5487–39.0369 | 4,961.8 | 39 | 18 | 21 | 4 | 1 | 3 | 4 | 1 | 3 | 2 | 0 | 2 |
| 210 | | 0–14.2857 | 39.0369–40.9907 | 4,768.6 | 38 | 17 | 21 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 2 | 0 |
| 211 | | 0–14.2857 | 40.9907–44.6064 | 4,982.6 | 53 | 21 | 32 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 1 | 1 |
| 212 | | 0–14.2857 | 44.6064–61.7659 | 4,874.4 | 55 | 24 | 31 | 4 | 3 | 1 | 3 | 2 | 1 | 2 | 1 | 1 |
| 213 | | 14.2857–20.9273 | 0–31.9917 | 4,934.6 | 36 | 9 | 27 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 0 |
| 214 | | 14.2857–20.9273 | 31.9917–34.1434 | 4,837.4 | 45 | 7 | 38 | 4 | 1 | 3 | 4 | 1 | 3 | 2 | 1 | 1 |
| 215 | | 14.2857–20.9273 | 34.1434–35.2664 | 5,028.0 | 29 | 10 | 19 | 4 | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 1 |
| 216 | | 14.2857–20.9273 | 35.2664–37.6706 | 4,989.8 | 47 | 19 | 28 | 4 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 1 |
| 217 | | 14.2857–20.9273 | 37.6706–41.8135 | 4,935.6 | 49 | 17 | 32 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 0 |

Table B1-1. Definitions of the strata used for site sampling and key sampling statistics by stratum (continued)

| Stratum ID | Features of the state WIC program | % of women who used fully breastfeeding package | Children's and mothers' high weight for height rates (%) | Total stratum measure of size | Number of: Units on frame: Total | Units on frame: Agencies | Units on frame: Sites | Phase 1 units sampled: Total | Phase 1 units sampled: Agencies | Phase 1 units sampled: Sites | Phase units sampled eligible for Phase 2: Total | Phase units sampled eligible for Phase 2: Agencies | Phase units sampled eligible for Phase 2: Sites | Phase 2 units sampled: Total | Phase 2 units sampled: Agencies | Phase 2 units sampled: Sites |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 218 | | 14.2857–20.9273 | 41.8135–55.0665 | 4,860.4 | 49 | 19 | 30 | 4 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 0 |
| 219 | | 20.9273–29.3196 | 0–32.3818 | 4,892.6 | 39 | 8 | 31 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 1 | 1 |
| 220 | | 20.9273–29.3196 | 32.3818–36.7067 | 4,924.8 | 56 | 20 | 36 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 1 | 1 |
| 221 | | 20.9273–29.3196 | 36.7067–38.5783 | 4,897.2 | 23 | 13 | 10 | 4 | 4 | 0 | 4 | 4 | 0 | 2 | 2 | 0 |
| 222 | | 20.9273–29.3196 | 38.5783–52.1351 | 4,912.4 | 44 | 22 | 22 | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 2 | 0 |
| 223 | | 29.3196–35.9756 | 0–32.5106 | 4,823.4 | 30 | 18 | 12 | 4 | 4 | 0 | 3 | 3 | 0 | 2 | 2 | 0 |
| 224 | | 29.3196–35.9756 | 32.5106–49.5159 | 4,706.6 | 36 | 20 | 16 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 1 | 1 |
| 225 | | 35.9756–69.1358 | 0–32.6778 | 4,878.4 | 28 | 24 | 4 | 4 | 3 | 1 | 3 | 3 | 0 | 2 | 2 | 0 |
| 226 | | 35.9756–69.1358 | 32.6778–47.0875 | 4,954.0 | 38 | 32 | 6 | 4 | 4 | 0 | 3 | 3 | 0 | 2 | 2 | 0 |
| 301 | Does the state operate a | 0–7.6336 | 0–100 | 4,222.0 | 47 | 4 | 43 | 4 | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 1 |
| 302 | breastfeeding peer counseling | 7.6336–33.3992 | 0–34.2542 | 4,262.8 | 37 | 10 | 27 | 4 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 0 |
| 303 | program? YES | | | | | | | | | | | | | | | |
| | Does the state require that general nutrition education be provided by a professional staff member (e.g., dietitian, nurse)? YES | | | | | | | | | | | | | | | |
| | Is infant formula issued in the first month to partially breastfed infants? N/A | 7.6336–33.3992 | 34.2542–50.2087 | 4,154.4 | 47 | 6 | 41 | 4 | 1 | 3 | 4 | 1 | 3 | 2 | 1 | 1 |
| Total | | | | 196,045.4 | 1,834 | 554 | 1,280 | 157 | 78 | 79 | 139 | 70 | 69 | 79 | 42 | 37 |

### B1.3.4 Stage 1 Sampling: Selection of the Phase 2 Sample

Following the selection of the Phase 1 sample of 160 first-stage units, further work was undertaken to enumerate individual service sites (when the first-stage unit was a local agency), ascertain each unit's eligibility, and select the final sample of sites. During April 2012, 42 SAs were sent an introductory letter and asked to review a list of local agencies in their state in the Phase 1 sampling frame of 160 units and provide information needed for Phase 2 of sampling. The 42 SAs were divided into two groups based on the information they reported for the PC 2010 census. The 21 SAs in Group A reported their local agencies on the census, but not the service sites under the local agencies. The 21 SAs in Group B reported their local agencies but also reported IDs for the sites under the local agencies. Group A was sent a list of all their local agencies on the sampling frame, along with the names of the sites within each local agency, based on information we obtained from their state and local websites. They were asked to review the list of local agencies and service sites, remove sites that were not operational, and add sites that were missing from the list. SAs in Group B were sent a list of local agencies and the ID numbers of service sites under the local agencies, and were asked to provide the name of the site corresponding to the site number(s), and indicate whether or not the site(s) was expected to continue as an operational site for the next 12 months.

The SAs were also asked to provide five items of information about their sites on the frame that would be operational for the next 12 months: (1) number of days the site was open to conduct prenatal and infant enrollments during January 2012, (2) total number of participants served that month, (3) number of prenatal women enrolled during that month, (4) number of infants enrolled during that month, and (5) whether any of the prenatal and infant participants were enrolled at outreach locations affiliated with the site.

The information SAs provided was used to determine eligibility for the Phase 2 sample. Sites that were not expected to continue in operations for the next 12 months and sites that did not meet the eligibility criteria (in terms of enrollment flow) were designated as ineligible. If the first-stage sampling unit was a local agency, that unit was designated as ineligible if all sites associated with the local agency were ineligible; otherwise, that unit was eligible.

Subsampling (second-phase selection) of eligible first-stage sampling units was done to arrive at the final sample of first-stage sampling units. In each of the 40 strata (the same strata used for the

Phase 1 sample) two first-stage units were sampled with equal probability from among the eligible units.

## B1.4 Stage 2 Sampling

As shown in Figure B1-1, Stage 1 sampling units selected in the Phase 2 sample that were local agencies (i.e., consisted of more than 1 service site) went through a second stage of sampling to select one service site. For each first-stage sampling unit that was a local agency, the eligible service sites were listed. An MOS that reflected the expected average daily enrollment was obtained for each service site by summing the January 2012 prenatal enrollment and 20 percent of the January 2012 infant enrollment, and dividing this total by the number of enrollment days in January 2012. Within each local agency in the Phase 2 sample, exactly one service site was sampled from the eligible sites with probabilities proportional to this MOS. The final sample of service sites contained a total of 80 sites in 27 SAs.

## B1.5 Site Replacements

During site sampling, candidate replacement sites were designated for each sampled site. These replacements were available for use in the event that the sampled site was unable or unwilling to participate in the study. All replacements were selected at the same time as the original sample from the same stratum as the sampled sites and had a similar measure of size. This replacement of sites by matched substitutes is similar to imputation and thus does not affect the weights of any member of the sample. A total of six sites were replaced.

## B1.6 Sampling New WIC Enrollees

### B1.6.1 Recruitment Windows

The sample included all prenatal mothers or their babies less than 2.5 months old who were newly enrolled into WIC at the sampled site during a prespecified recruitment window. Mothers were eligible to participate even if they had enrolled in WIC for a previous pregnancy or previous child. The recruitment window was a consecutive string of days in which all new WIC enrollees in that site were designated to be screened for eligibility and recruited into WIC ITFPS-2. The length of the

recruitment window for each site was predetermined based on the estimated amount of time that would have been needed in July 2012[4] to yield 98 new WIC enrollees per site (the target sample size for each site). Since the flow of new WIC enrollees into the 80 sampled sites was decidedly different, the window length was much shorter in clinics with a "high flow" of new enrollees compared with clinics with a "low flow." The study screening and enrollment processes did not necessarily occur during the recruitment window, but the study participants must have enrolled in WIC at the service site during the recruitment period.

After notifying the sites of their selection into the study, we provided them enrollment data obtained from the WIC PC 2010 dataset on their participation, prenatal and infant enrollment rates, and the site days of operation for January 2012. The sites were asked to identify any significant changes to the information (such as increases or decreases in participation or prenatal/infant enrollments between January and August), and to update the site schedule for enrolling new participants.

The length of the recruitment window for each site was calculated based on the updated enrollment figures and the total recruitment period was set at 20 weeks. The recruitment windows ranged from 4 to 77 days per site. The recruitment protocol called for staggering the launch of recruitment in the 80 sites over a 9-week period and each site was randomly assigned to a "release group" which corresponded to 1 of the 9 weeks that recruitment was launched. A site's eligibility for a given release group depended on the length of that site's recruitment window. For example, a site that required a 3-month recruitment window could not be assigned to the last release group. Thus, the randomization of recruitment windows took into account each site's window length but was also done in such a manner that the planned number of sites was assigned to each release group. The first and last release groups each included 5 sites, while the remaining release groups each included 10 sites. In general, recruitment in the sites was launched on the Monday of the recruitment week.

The 20-week recruitment period began July 1, 2013, and ended November 18, 2013. Before starting recruitment, we increased the recruitment window for each site by 3 percent to serve as a buffer based on new enrollment data that suggested the WIC enrollment was declining. However, even with the 3 percent buffer, after 4 weeks into recruitment with 40 sites in the field (August 1, 2013), we projected we would only reach about 84 percent of the estimated number of eligible WIC

[4] July 2012 was the month the sites provided updated enrollment counts and schedule information prior to calculating recruitment windows.

women relative to the expected numbers that were estimated in July 2012. As a result, all recruitment windows were extended by an additional 10 percent (with the exception of 5 sites where the full 10% extension could not be achieved while still ending recruitment on November 18).

### B1.6.2 Core and Supplemental Samples

Two samples were selected at each service site: a core longitudinal and supplemental cross-sectional sample. The core sample was originally designed to be an equal probability sample of all new enrollees. The supplemental sample was designed to focus on subpopulations with specific characteristics such as African American mothers and infants enrolled postnatally with no prenatal WIC exposure. The supplemental sample was not designed to be analyzed by itself but only in conjunction with the core sample. Under the original design, the two samples were to start out as equal in size with an average of 49 (one-half of the total of 98) new enrollees each per service site. The supplemental sample was designed to be considerably smaller after screening and subsampling.

During recruitment, each pregnant client was asked if this was the first time she had enrolled for WIC during this pregnancy, and each mother of a newly enrolling infant was asked if she was enrolled in WIC during her pregnancy for the infant at hand. For both prenatal and postnatal enrollees, only first-time enrollees were eligible for the sample. With this approach, ineligible postpartum mothers and infants were immediately screened out of the sample. During recruitment, the sample was screened to determine race, ethnicity, trimester at enrollment, pre-pregnancy body mass index (BMI), household composition, and income, and new enrollees not required to achieve the subgroup targets were subsampled from the supplemental sample. This approach was designed to drop approximately: 68 percent of White mothers; 81 percent of Hispanic mothers; 71 percent of mothers in their first trimester; 68 percent of mothers in their second or third trimester; 18 percent of mothers enrolling postnatally; 58 percent of obese mothers; 29 percent of overweight mothers; 71 percent of mothers with low or normal pre-pregnancy BMI; 54 percent of mothers with income at or below 75 percent of poverty; 64 percent of mothers with income between 76-130 percent of poverty; and 69 percent of mothers with income above 130 percent of poverty. These rates were based on the sample sizes needed to support the precision requirements (power projections) and were determined by taking into account estimated population distributions.

Following the decision to extend the recruitment windows by 13 percent, the sample was closely monitored to determine whether recruitment targets could be met. Several weeks of tracking the enrollment of prenatal mothers and their infants into WIC in each of the 80 sites confirmed that we could not meet the projected study recruitment targets. To compensate, we altered the study participant sampling process to eliminate the subsampling of participants in the supplemental sample. Additionally, the proportion of sampled cases designated for the core (vs. supplemental) sample was revised to 87.5 percent (a change from the original 50%).

These changes were designed to meet the core target sample size (based on the lower-than-expected WIC enrollment flows that had been observed to date) and meet or exceed the overall target sample size. The core sample remains nationally representative. Following these changes, no eligible participant was subsampled out; thus, the demographic characteristics of the supplemental sample after the change differed considerably from the demographic profile before the change. These changes went into effect as of August 27, 2013. Cases completing the screener prior to August 27, 2013, were sampled using the original rates, and cases completing the screener on or after August 27, 2013, were sampled using the revised rates.

### B1.6.3 Multiple Births

For those study mothers who had twins, triplets, and so on, a single infant was sampled at the first postnatal interview.

## B1.7 Details of the Weighting Procedures

### B1.7.1 Computation of Survey Weights

For the analyses in this report, survey weights were computed for:

- The prenatal respondents;
- The 1-month interview, 3-month interview, 5-month interview, 7-month interview, 9-month interview, 11-month interview, 13-month interview, 15-month interview, 18-month interview, 24-month interview, 30-month interview, 36-month interview, 42-month interview, 48-month interview, 54-month interview, 60-month interview, and 72-month interview respondents (separately);
- A set of participants who responded to either the 1- or 3-month interview;

- A set of participants who responded to the prenatal interview, the 1-month interview, the 3-month interview, the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, and the 13-month interview;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, and the 24-month interview;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, and the 36-month interview;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, and the 48-month interview;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, the 48-month interview, the 54-month interview, and the 60-month interview;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, the 48-month interview, the 54-month interview, the 60-month interview, and the 72-month interview;
- A set of participants for whom birth length and weight measurements were available;
- A set of participants for whom 6-month length and weight measurements were available;
- A set of participants for whom 12-month length and weight measurements were available;
- A set of participants for whom 24-month length and weight measurements were available;
- A set of participants for whom 36-month length and weight measurements were available;

- A set of participants for whom 6-month, 12-month, 24-month, and 36-month measurements were available;
- A set of participants for whom 48-month length and weight measurements were available;
- A set of participants for whom 60-month length and weight measurements were available;
- A set of participants for whom 72-month length and weight measurements were available;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, and the 36-month interview, and also provided 36-month length and weight measurements;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, and the 48-month interview, and also provided 48-month length and weight measurements;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, the 48-month interview, the 54-month interview, and the 60-month interview, and also provided 60-month length and weight measurements;
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, the 48-month interview, the 54-month interview, and the 60-month interview, and also provided 60-month length and weight measurements plus length and weight measurements from at least one at birth, 6 months, 12 months, 24 months, 36 months, and 48 months, and also provided responses for all potential covariates used in growth model analysis at 60 months; and
- A set of participants who responded to either the 1-month or the 3-month interview, and also responded to the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, the 13-month interview, the 15-month interview, the 18-month interview, the 24-month interview, the 30-month interview, the 36-month interview, the 42-month interview, the 48-month interview, the 54-month interview, the

60-month interview, and the 72-month interview, and also provided 72-month length and weight measurements.

These weights account for differential probabilities of selection and nonresponse. For some analyses, weights were computed for the "combined" set of respondents (including both core and supplemental sample cases); for other analyses, weights were computed for the core sample only (see below for further discussion of this).

For each sampled site, the site-level base weight was computed as the reciprocal of the probability of selection of the site. For example, if a site was sampled with probability equal to 1/100, its base weight was 100. Because sites were sampled within strata with probabilities proportionate to their estimated size, there was variation in these probabilities. The site-level base weights varied from 4.9 to 64.9.

The site-level base weights were adjusted to account for the probability of sampling the participant within the site. This adjustment accounts for the length of the recruitment window at the site (relative to the total number of days the site was enrolling participants during the study recruitment period). The resulting weight was the participant-level base weight, and these weights varied from 23.2 to 245.0.

As discussed in Section B1.3, two samples were selected at each site: a core longitudinal and supplemental sample. For some interviews, both the core and supplemental sample (combined) are interviewed, while for other interviews, only the core sample is interviewed. The participant weights for these interviews include factors to account for the subsampling of participants for the core sample and for the subsampling of participants in the supplemental sample, to produce core-only sample weights and combined sample weights. The weights for a particular interview are based on the sample to which the interview was administered.

For those study mothers who have multiple births, a single infant was sampled at the first postnatal interview, and the weights account for the sampling of the particular infant.

### B1.7.2 Adjusting for Nonresponse

Nonresponse occurs as a result of respondents refusing or being unable to participate in some interviews. Because the set of participants who respond differs from interview to interview, the

weights used to analyze data from a particular interview were developed to adjust for nonresponse to that particular interview. Some analyses involve participants who respond to a given combination of interviews, or those who respond to either one interview or another. In such cases, custom weights that adjust for nonresponse to the particular combination of interview were developed.

Specifically, to reduce the potential nonresponse bias, the base weights were adjusted to compensate for differential nonresponse. A weighting class adjustment (Brick & Kalton, 1996) was used to adjust for nonresponse. With this approach, weighting classes are formed (using variables known for respondents and nonrespondents), and nonrespondents' weights are redistributed to respondents within the same weighting class. Characteristics used to form the weighting classes should be associated with the probability of response as well as key survey outcome variables (Little & Vartivarian, 2003). In the early stages of recruitment for WIC ITFPS-2, however, very limited information was available for both respondents and nonrespondents. The characteristics used to form weighting classes to adjust for nonresponse at each stage were as follows:

- **Adjusting for log nonresponse and nonresponse to the screener:** Service site.
- **Adjusting for nonresponse to the enrollment instrument or failure to consent to the study:** Mother's age; timing of WIC enrollment (1st trimester, 2nd trimester, 3rd trimester, postnatal); mother's weight category (overweight, obese, other); mother's Hispanic origin; mother's race; poverty status; and language.
- **Adjusting for prenatal interview nonresponse:** Timing of WIC enrollment, mother's age, language, and race.
- **Adjusting for 1-month interview nonresponse:**
  - **Core-only sample:** Timing of WIC enrollment, food security, mother's Hispanic origin, mother's weight category, mother's race, age, language, and poverty status.
  - **Combined sample (core and supplemental):** Timing of WIC enrollment, mother's race, mother's weight category, mother's Hispanic origin, age, food security, language, and poverty status.
- **Adjusting for 3-month interview nonresponse (core-only sample):** Mother's weight category, food security, language, poverty status, race, timing of WIC enrollment, and mother's age.
- **Adjusting for nonresponse to both the 1- and 3-month interviews:**
  - **Core-only sample:** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.

  - **Combined sample (core and supplemental):** Food security, mother's weight category, mother's age, language, mother's race, timing of WIC enrollment, and poverty status.

- **Adjusting for 5-month interview nonresponse (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 7-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, and mother's race.
- **Adjusting for 9-month interview nonresponse (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 11-month interview nonresponse (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 13-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, mother's race, and WIC enrollment status at 7 months.
- **Adjusting for nonresponse to any interview from the prenatal interview through the 13-month interview (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for nonresponse to the 1-month interview and the 3-month interview, or to any interview from the 5-month interview through the 13-month interview (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, and mother's race**.**
- **Adjusting for nonresponse to the 1-month interview and the 3-month interview, or to any interview from the 5-month interview through the 24-month interview (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, and mother's race**.**
- **Adjusting for 15-month interview nonresponse (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, WIC enrollment status at 13 months, and mother's race.
- **Adjusting for 18-month interview nonresponse (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, WIC enrollment status at 15 months, and mother's race.
- **Adjusting for 24-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, WIC enrollment status at 13 months, and mother's race.

- **Adjusting for nonresponse to the 1-month interview and the 3-month interview, or to any interview from the 5-month interview through the 36-month interview (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 30-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, mother's Hispanic origin, and mother's race.
- **Adjusting for 36-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, mother's Hispanic origin, and mother's race.
- **Adjusting for nonresponse to the 1-month interview and the 3-month interview, or to any interview from the 5-month interview through the 48-month interview (core-only sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 42-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, mother's Hispanic origin, and mother's race.
- **Adjusting for 48-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, mother's Hispanic origin, and mother's race.
- **Adjusting for nonresponse to the 1-month interview and the 3-month interview, or to any interview from the 5-month interview through the 60-month interview (core-only sample):** Mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.
- **Adjusting for 54-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, mother's Hispanic origin, and mother's race.
- **Adjusting for 60-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, mother's Hispanic origin, and mother's race.
- **Adjusting for 72-month interview nonresponse (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, and mother's race.
- **Adjusting for nonresponse (i.e., lack of availability) to the birth length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, WIC enrollment status at 1 month, and mother's race.
- **Adjusting for nonresponse (i.e., lack of availability) to the 6-month length and weight measurements (combined sample):** Food security, mother's weight category,

mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, WIC enrollment status at 3 months, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 12-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, WIC enrollment status at 7 months, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 24-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, WIC enrollment status at 13 months, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 36-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 48-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 60-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age (2 variables used), timing of WIC enrollment, poverty status, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to the 72-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to any of the 6-month, 12-month, 24-month, and/or 36-month length and weight measurements (combined sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to any of the interviews (1- or 3-month through 36-month) and/or 36-month length and weight measurements (core sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to any of the interviews (1- or 3-month through 48-month) and/or 48-month length and weight measurements (core sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to any of the interviews (1- or 3-month through 60-month) and/or 60-month length and weight measurements**

**(core sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, language, and mother's race.

- **Adjusting for nonresponse (i.e., lack of availability) to any of the interviews (1- or 3-month through 60-month) and/or 60-month length and weight measurements and/or any of the variables considered as covariates for the 60-month growth model (core sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, mother's Hispanic origin, poverty status, language, mother's race, and baby's gender.
- **Adjusting for nonresponse (i.e., lack of availability) to any of the interviews (1- or 3-month through 72-month) and/or 72-month length and weight measurements (core sample):** Food security, mother's weight category, mother's age, timing of WIC enrollment, poverty status, and mother's race.

These adjustments were performed sequentially; that is, the base weights were adjusted for log nonresponse and nonresponse to the screener, these adjusted weights were adjusted for nonresponse to the enrollment instrument or failure to consent, and these adjusted weights were adjusted for nonresponse to the particular interview(s). Within these weighting classes, a weighted response rate was computed (using the weights produced in the previous adjustment) and applied to the weights from the previous adjustment (i.e., the weights from the previous adjustment were divided by the weighted response rate in the weighting class) to obtain the corresponding nonresponse-adjusted weights.

### B1.7.3 Replicate Weights

In addition to the full sample weights described above, a series of replicate weights were created and attached to each data record for variance estimation. Replication methods provide a relatively simple and robust approach to estimating sampling variances for complex survey data (Rust & Rao, 1996). The basic replication approach is to repeatedly select portions of the sample ("replicates") and then to apply the weighting process developed for the full sample to each replicate separately. The estimate of interest is calculated for each replicate. The variability among these estimates is then used to estimate the variance of the full sample statistics. The replicate weights were used to calculate standard errors of the survey-based estimates and to conduct significance tests and other analyses.

Different approaches can be used to create these replicates. For WIC ITFPS-2, 40 replicates were created, and the replication approach that was used is a modified balanced repeated replication (BRR) method suggested by Fay (Judkins, 1990). When estimating the variance of ratios of rare

subsets, one problem that occasionally arises from standard BRR is that one or more replicate estimates will be undefined due to zero denominators. Instead of increasing the weights of one half-sample by 100 percent and decreasing the weights of the other half-sample to zero as in standard BRR, Fay's method perturbs the weights by ±100 (1-K) percent where K is referred to as "Fay's factor." The perturbation factor for standard BRR is 100 percent, or K=0. For WIC ITFPS-2, K=0.3 was used.

### B1.7.4 Determining Which Survey Weight to Use for a Particular Analysis

As discussed in Section B1.7.1, several different sets of weights have been computed for different analysis purposes. In planning for an analysis, a critical early step is to identify the weight that is appropriate for that analysis. To do this, the analyst should determine how the set of cases being used in the analysis is defined. It is important to note that the choice of survey weight is not a function specifically of the variables being used, but rather of the set of cases being used in the analysis. For example, if the analysis involves estimating the proportion of infants with medical conditions affecting feeding by 5 months of age, by whether or not they were exclusively breastfed through 5 months, including other covariates from the baseline (1- or 3-month) interview, then the set of cases included in the analysis are those who completed the 5-month interview; thus, the appropriate weight is the 5-month interview (cross-sectional) weight. To consider another example, if the analysis involves examining how the introduction of sugar-sweetened beverages by 13 months of age is related to prenatal nutrition education provided by the WIC program and duration of breastfeeding (as measured by whether the infant was still being breastfed at each of the 5-, 7-, 9-, 11-, and 13-month interviews), the set of cases included in the analysis are those who completed the prenatal interview, a baseline (1- or 3-month) interview, and each of the 5-, 7-, 9-, 11-, and 13-month interviews; thus, the appropriate weight for that analysis would be the (longitudinal) weight computed for the set of participants who responded to the prenatal interview, the 1-month interview, the 3-month interview, the 5-month interview, the 7-month interview, the 9-month interview, the 11-month interview, and the 13-month interview.

## B1.8 Imputation

Imputation was used to adjust for item nonresponse (i.e., missing data for particular items among those who respond to a given interview). All the key sociodemographic variables are imputed for the

total sample (see Chapter 1, Section 1.8.2). As with weighting, a carefully designed imputation procedure aims to reduce bias due to nonresponse (in this case, item nonresponse). The hot-deck imputation method was used to generate the imputations (Kalton & Kasprzyk, 1982). With this approach, imputation cells are formed by cross-classifying variables that are associated with the variable being imputed and, where possible, also associated with the probability of response to the variable being imputed.

## B1.9 Attrition

Table B1-2 presents the percentages of enrolled study participants who left the study at select interview months. The majority of those who left were eligible to continue with the study.

**Table B1-2. Attrition of enrolled participants up to the 72-month interview (*n*=4,365)**

| Attrition of enrolled participants (*n* = 4,367) | 13-month interview % (*n*) | 24-month interview % (*n*) | 36-month interview % (*n*) | 48-month interview % (*n*) | 60-month interview % (*n*) | 72-month interview % (*n*) |
|---|---|---|---|---|---|---|
| Total | 17.6 (769) | 21.6 (944) | 26.1 (1,139) | 28.9 (1,260) | 30.2 (1,317) | 30.9 (1,347) |
| Eligible[a] | 12.9 (563) | 16.8 (735) | 21.2 (924) | 23.8 (1,039) | 25.0 (1,093) | 25.8 (1,125) |
| Ineligible[b] | 4.7 (206) | 4.8 (209) | 4.9 (215) | 5.1 (221) | 5.1 (224) | 5.1 (222) |

[a] Participants eligible to continue in the study. Includes nonparticipation reasons such as non-locatable, refusal, and not completing a baseline interview.

[b] Participants not eligible to continue in the study. Includes nonparticipation reasons such as pregnancy loss, child decease, and moving out of the country.

## B1.10 References


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