

School Nutrition Dietary Assessment Study (SNDA) III Peer Review Comments

SNDA-III findings are considered to be “influential scientific information” because they can have a clear substantial impact on important public policies or private sector decisions, as well the potential to influence the actions of state and local agencies. FNS therefore conducted a formal peer review of the SNDAS-III findings in compliance with the standards in the Office of Management and Budget Final Information Quality Bulletin for Peer Review issued December 15, 2004.

Peer reviewers were selected for their expertise in four areas: 1) research methodology and statistical analysis, 2) knowledge of the National School Lunch Program (NSLP) and School Breakfast Program (SBP) including school operations and environment, factors affecting student participation in school meals, characteristics of participants and non-participants, and the characteristics of reimbursable meals and the nutrient content of menus, 3) knowledge of dietary intake relative to the Dietary Reference Intakes (DRIs), and 4) knowledge of competitive food issues in the school environment as well as the relationship of those foods to the dietary intake of students.

Reviewers were asked to provide written comments and were charged with evaluating the clarity of hypotheses, the robustness of the methods employed and the appropriateness of the methods for the hypotheses being tested, the extent to which the conclusions follow from the analysis, and the strengths and limitations of their selected sections. The peer reviewers were requested, as appropriate, to suggest ways to clarify assumptions, findings, and conclusions; identify oversights, omissions, and inconsistencies; and, if needed, encourage authors to more fully acknowledge limitations and uncertainties. The reviewers were informed that the Agency did not have funds to make changes that required additional data collection, reconsideration of the research design, or significant re-analyses of data.

The comments provided by the peer reviewers are found below verbatim, as they were submitted in response to review of a draft version of the SNDA-III reports. The final published version of the reports reflects edits and other modifications made in consideration of the peer reviewers’ comments. The peer reviewers, their affiliations and sections of the report they reviewed are as follows:

- 1) Research questions, study design and statistical analysis methods:
 - Joseph Goldman, Food Surveys Research Group, Agricultural Research Service, USDA3
 - Dr. Helen Jensen, Department of Economics, Iowa State University5
 - Dr. Michael Larsen, Department of Statistics, Iowa State University11

- 2) NSLP/SBP school operations, nutrient content of reimbursable school meals:
 - Dr. Deborah Carr, National Food Service Management Institute21
 - Dr. Jeannie Sneed, Sneed Consulting22

3) Dietary intake:	
• Dr. Lenore Arab, David Geffen School of Medicine, UCLA.....	27
• Dr. Karen Cullen, Children’s Nutrition Research Center, Baylor College of Medicine, TX	32
• Dr. Katherine Ralston, Economic Research Service, USDA.....	35
4) Competitive foods:	
• Dr. Mary Story, School of Public Health, University of Minnesota.....	38
• Dr. Terry O’Toole, Division of Adolescent and School Health, CDC.....	42

Joseph D. Goldman, Food Surveys Research Group, Agriculture Research Service, USDA

Comments on Vol III: Sampling and Data Collection, Vol I & II: Design and Methodology Sections

This review is focused on the sections of the report I was asked to concentrate on. While I have scanned the entire report, the following comments are not intended to reflect a review of the full report.

Generally I like the format. The report sections are appropriate and the summary findings that preface major sections are useful. I would have appreciated a glossary of abbreviations in a single place I could go to rather than the first parts of the chapters. Text and tables are clearly presented and readable.

Volume I:

- Sample design, pages 12-13 As I read this there should be at most three schools per SFA but the final sample has more than 3 per SFA. Am I misinterpreting this? (Later: I see that Volume III provides further information on this.) Aside from that, I find the use of the substitute units, as described in this section, acceptable.
- Statistical reporting standards, page 24 This states that, in following the standards proposed in the cited FASEB report, estimates are flagged when $p^2 * n$ or $(1-p)^2 * n$ is less than $8 * df$. The FASEB report, however, suggests flags based on $p * n$ or $(1-p) * n$. Also, see below under Volume II.
- Comparison of SNDA-II and III, Analysis method, page 237 I agree with the decision to present comparisons based on weighted analyses.
- Appendix C, page C.3 Here, and elsewhere throughout the report it is made clear that USDA's FNDDS provided the basis for the nutrient values for SNDA-III. FNDDS, however, does not provide values for vitamin A as retinol equivalents, the unit in which the 1989 RDA for vitamin A is stated and which the report clearly indicates was used for the analyses. Have I missed a note or reference identifying the source of these values?
- Appendix C, page C.14 I agree with the use of weighted RDA standards for the menu analyses.

Volume II:

- Tests of Statistical Significance, pages 20-23 I like this section. I especially appreciate the discussion of the "minimum detectable difference." This should help people to understand and make use of the results.

- Statistical Reporting Standards, page 23 This seems to be a corrected re-statement of the guideline from page 24, Volume I mentioned above. It still seems awkwardly phrased. I think the inserted definition of n causes the awkwardness.
- Intake Data, page 131 Discussion of participation. I had a number of questions related to the definition of participation when I reached this point. I didn't notice until later that Appendix A dealt with the issue. Even still, I have several questions about data collection. Is it correct that Fridays are not represented among the day 1 intakes of middle and high school students? Also, what about the day-of-week for the second recall? I haven't noticed a discussion of the procedures for that interview.
- Coding procedures, page 132 Were there many foods eaten in combination but reported separately such as items from a salad bar or sandwich components? Were these items collapsed into a single food item for the purpose of the food-related analyses?
- Comparison with Other Studies, page 150 Were there any issues with day-of-week? Have previous analyses shown a difference across days of the week for students' lunches, particularly with Friday in mind?
- Table VI.6, page 170 There are typos in the total fat % within AMDR and/or % > AMDR lines. (This was easily noticeable to me, I haven't made a careful study of the tables in general.)

Volume II Appendices

- I find the appendices very informative. They address a number of questions I had while reading Volume II both with respect to how procedures were implemented and in providing additional estimates such as the full set of usual intake distribution tables. I found the discussions of the multivariate analyses, usual intake estimation, and the propensity score procedure sufficient as I found the use of these procedures sufficient.

I think it is appropriate that the appendices be in a separate volume. They won't hold the same attraction to other readers as they do to me but I would like to have been reminded of the relevant appendix as I read through Volume II. Additionally, I would like to have a separate table of contents in the front of the Appendix volume.

- page I.8, next to the last sentence of the only full paragraph "..., *means intakes* for both participants ..." should read "mean intakes."

Volume III

- Essentially more appendices. Important to have documented in one place. I found the discussions of sample design and selection and of weighting to be sufficient.

Dr. Helen Jensen, Department of Economics, Iowa State University
Comments on Vol III: Sampling and Data Collection, Vol I & II: Design and Methodology Sections

General Comments

Overall presentation of material is clear.

Statements of research questions and summary of findings were very helpful in the chapters.

The data hold a wealth of information on the school environment, meals offered/served and dietary intakes. Some new material was included to allow for analysis of data to correspond with the introduction of DRIs. However, as needed, methods were included to allow comparison to the previous SNDA surveys.

Comments by Volume and Section

Volume I: School Food Service, School Food Environment, and Meals Offered and Served

I. Introduction

I.C. Study Design and Data Collection Methods

p. 12-13, 14, Table I.2. Information in Table I.2 provides a good reference summary.

The top of p. 13 seems to be the first use of terms “menu sample” and “student sample”. Because the terms “menu sample” and “student sample” are used as the major discussion groupings, it might be useful to highlight (through bold, or just a sentence indicating these are the groupings compared) so that the reader is aware of the importance of these groups (top, p. 13).

p. 15, Menu survey. The daily meal counts form collected counts of reimbursable meals for each day of the target week. Did the “Reimbursable Foods Forms” also include day of the week? The data used for analysis of meals served (see p. 237-38) indicates that daily values for the average meal served is available and used in estimating the average value for a week.

p. 17, Section 3. Response Rates.

The response rates for the SFA and Schools (Table 1.3) seem acceptable, and, as one would expect, are higher for the Menu Sample compared with the Student Sample (for both the SFAs and the Schools).

p. 21-22, Table I.5. Why are there missing values for urbanicity and poverty level (3 values missing)? This would occur if there was not good location information on a school. With school visits, how would this happen? I didn’t see any information on this in reading through Volume III: Sampling and Data Collection, including Appendix A.

I.D. Overview of Analysis Methods

This section is useful. Presentation, as an overview, was clear.

VI. Nutrient Content of NSLP Lunches Offered and Served

VI.B. Overview of Data and Methods

1. Data Sources, p. 160, 1st paragraph. Two terms are used in this paragraph: “commercially prepared food items” and “...for prepared school foods”. The use of more similar terms would help clarify their use (e.g., “...for *commercially* prepared foods”). This is a small point, but just to clarify that the two refer to the same items not available in Survey Net.
2. No concerns identified.
3. Standards Used to Assess Nutrient Content.
Table VI.1 is clear. The use of the 1995 SMI nutrient standard to assess the school meals offered and served was used because the SMI standards are the regulatory benchmark for the school meals at the time of the study. The text (p. 163) explains the more recently available DRIs for assessments and the Dietary Guidelines 2005.

At some future time (another project), it would be useful to give more consideration to how to apply the IOM (2003) methods for implementing group planning of nutrients and food components.

VII.B. Nutrient Content of SBP Breakfasts -- Overview of Methods – No concerns identified.

VIII. Changes in the Nutrient Content of NSLP and SBP Meals

VIII.B. Analysis Methods

1. Data sources
The information about the data sources used in SNDA-II and SNDA-III is clear. Potential difference may occur because of: some changes in the menu survey form; changes in default portion size for salad dressing; and nutrient information/software used in coding food items. Some of these differences are evaluated explicitly (e.g., salad dressing amounts); others are suggested as qualifications and noted as possible contributors to observed differences.

There was no discussion about the possible effect of collecting menu information in the fall (SNDA-II) versus the spring (SNDA-III). I would think that this difference would be small (for the same school), but wonder if there might be some difference due to beginning/end of school year or to the season. Is that discussed elsewhere? A qualifier on time of survey could be added to the last sentence of the 1st section to cover this.

2. Analysis method
Comparisons on the basis of *weighted* nutrient analysis and from estimates of average meal served (and averaged across one week) are appropriate. Appendix C also describes the estimates for *unweighted* data (meals offered). The explanation on use of “meals served” in the second paragraph is helpful.
Combining data from middle and high schools to form a secondary school group is appropriate, given the wide range in school configurations.

3. No concerns identified.

Appendix C. Methods for Analysis of the Nutrient Content of Meals Offered and Served

p. C.4. Folate is included in nutrients analyzed, though not among the SMI target nutrients. Because folate fortification was required for enriched grain products beginning in 1999, it would be useful to consider how this change might affect the folate values used in the multiple years of survey data. I note that SNDA-II (conducted 1998-99) used the Child Nutrition data base, release 3 (p. 236). The SNDA-III used the FNDDS (version ?). The nutrient data bases and versions will affect the folate values used.

Analysis of the SNDA-III data shows intakes both for Folate (mcg) and Folate (mcg DFE) (Table VI.5 and Appendix D). I assume the data base for the SNDA-III has the available fortified levels as available in FNDDS v2. This appendix would be a good place for clarification or caution on any comparison of folate intakes to earlier periods (could be as a footnote). Do commercially prepared foods have the same fortification requirements as foods prepared for retail sale.

p. C14. The customized approach to establishing specific RDA-based standards for each school based on the distribution of age/grade combinations relative to the RDA standard is appropriate as a means to incorporate the nutritional requirements of the school-age children and for purposes of comparison across schools and to SNDA-II.

Overall, the detail in this appendix is very useful. The example (Table C-VI.1) is good. For someone who doesn't deal with complexity of the school meal calculations and menu-planning, the appendix is a good reference on the various computations on the menu and meal items required for comparisons across schools and meals.

Volume II: Student Participation and Dietary Intakes

I. C. Study Design and Data collection Methods

The sampling approach, selection of children within the school, data collection and response rates are clearly described.

I.D. Overview of Analysis Methods

The description of tests of statistical significance is useful (especially as a point of reference for the types of results to be discussed later in the report).

Overview of methods in section 5 (Analysis Methods for Assessing Dietary Intakes) has no identified problems.

IV. Factors Related to School Meal Program Participation

A. Summary of findings.

p. 114, top. In the last bulleted finding, I think it should be "SBP" not "NSLP".

B. Methods.

The discussion about the probit model and interpretation of coefficients is clear. The caution on unobserved variables is useful.

C. Factors that Predict NSLP Participation.

The grouping of variables is useful and facilitates discussion (Table IV.2). Were the groups of variables tested for significance as a group?

On the “Day of Week” finding: The statistical significance of higher participation on Thursday is interesting. Is this a phenomenon well known by school meal planners? I understand from the table (IV.2), that of students, 26.1% reported Monday participation (and, for older children, would have been interviewed on Tuesday; younger children may have had the first part of the interview on Monday afternoon). Are the Friday observations primarily elementary school children? That is, with interview on Friday morning? If not, is it correct that they were interviewed on Monday? Using day of week variables is ok in either case; my question relates to whether there is some confounding of survey method and effect of day of week.

D. Factors that Predict SBP Participation. No problems identified.

V. Methods Used to Assess the Dietary Intakes of School Meal Participants and Nonparticipants

A. Data Collection Methods

p. 131, top. Discussion of data collection and days of week. See comment on section IV.C. Are elementary students the only ones reporting intake on Friday? If so, the estimation of usual intakes might include this as a survey design effect (that is, secondary school children report only on Monday-Thursday week days).

B. Dietary Reference Intakes

The description of the use of DRIs to assess usual dietary intakes is clear and covers the DRIs for vitamins and minerals evaluated.

C. Analysis Methods

The cautions on not ascribing causal effect to observed and estimated differences between participants and nonparticipants are well placed at the beginning of Section C. The description of adjustments (regression-adjustments) for estimating mean intakes of energy and nutrients is clear.

The overview of methods for estimating the prevalence of inadequate and excessive intakes is adequate, though to be specific: the estimate is of usual intake on a school day (not usual daily intake across all days of the week).

Volume II. Appendices

Appendix A. Definition of School Meal Program Participation

This appendix was thorough and useful: alternative definitions were identified and the investigation and comparison of alternative measures with benchmark participation rates was clear.

p. A.12, the term “certified students” should be defined. I found a description in Volume I, but it would be useful to clarify the term in this section as well.

Appendix C. Multivariate Analysis of Participation in the NSLP and SBP

p. C.4-5. There are several references to the “basic specification”, or “basic model specification” in the text. Table C.1 and C.2 show Model 1 as the “Base Model”. If these are the same, I suggest picking one term to use in text and tables.

The imputation approach is reasonable.

See earlier comment on day-of-week: IV.C. The strong Thursday effect on participation for school lunch is of interest.

Appendix E. Multivariate Analysis of Mean Dietary Intakes

Comparison of Equation (1) and (2) or (3). I think α_2 should be assigned as the coefficient of NSLP in equation (1) to be consistent with equation (2); or the α_1 and α_2 coefficients should be reversed in equation (2) and (3) for consistency. Please check this.

Please clarify (in footnote 2?) that the dependent variable was one-day of reported intake (the first day for students who reported two-days of intake).

With all of the data on the individual characteristics, school meals offered and the school environment, it is interesting that generally less than 10% of variation in intakes was explained by the regression adjustments.

Appendix H. PC-SIDE Software and Estimation Procedures

The data are adjusted for survey design effects (day 1 and day 2). Please see earlier note on day of week: V.A. The issue is whether there should be a control for day of week as well.

p. H.3, last two lines should read: “...PC-SIDE can estimate the percentiles and proportion of the population...”

Appendix I. Propensity Score Matching Analysis

The use of propensity score matching to adjust for observable differences between school meal participants and non-participants in order to assess differences in nutrient adequacy/excess is an innovative approach to the intake comparisons. As noted at the top of p. I.8, there are limitations due to not accounting for the variation attributed to the use of an estimated propensity score and the matching process itself. Can anything be said about the effect of not accounting for this variation? That is, will the omission cause the standard errors to be underestimated? I’m not certain this is the direction, but was probing a bit on how to interpret the statistical tests reported in tables VI.5-6 and VII.5-6.

Volume III. Sampling and Data Collection

II. Sample Design and Selection

No areas of concern. The description of the sampling design is clear.

III. Survey Results

The response rates for the SFAs and the Schools seem adequate. In fact, the relatively high response rate by schools for a fairly labor intensive task of responding on the menus seems to be very good (even conditioned on participation by the SFA).

The explanation of the student sampling efforts is clear. It does seem that parental interest in healthy eating may make it more likely for a returned consent form. Were there differences among the strata on school type (elementary, middle and high school)? One might think that parental involvement might differ by the age of child. Yes: “further analysis of these issues may be warranted”.

V. Weighting SNDA-III Data

p. 71, nonresponse adjustment. “Nonresponse adjustment cells were formed by crossing the seven regions by grade level (elementary, middle, high).” Does this mean that “grade level” refers to the stratum on one of three types of school? Given the range of grades covered (especially by the elementary school category), there are some students in the upper grades (say, 9-12) and in the elementary school category.

On p. 71, I understand “grade level” to be one of three school levels (strata); is the term used in the same way on p. 72 for the independent variable described as “grade level”? It doesn’t look that way from the variables included in the logistic regression (listed p. 73).

Dr. Michael Larsen, Department of Statistics, Iowa State University
Comments on Vol III: Sampling and Data Collection, Vol I & II: Design and Methodology Sections

Note: I read volume 3 then 1 then 2 and then appendices to 2.

1. Vol 1

- **I.C.**

Page 12-13: Three stage design is a good idea. Splitting into a student sample (three stages) and a supplemental sample (two stages) likely will reduce costs and provide valuable information at levels one and two.

Page 14: Clear description of data collection instruments. A balance was made between phone data collection and in-person data collection; it is hard to imagine a plan that would avoid such intensive in-person data collection.

Page 18: response rates are quite good, despite challenges.

Page 19: subgroups examined are district size, urbanicity, child poverty, and seven FNS regions. Weights (discussed elsewhere) adjust for region and district size, so we'd expect those to do well. That these also do well for urbanicity and child poverty is encouraging.

Table I.5: this could include 'sample' in the title as these are the sampled schools.

Page 21: consistency of definitions with previous FNS/SNDA studies is important.

- **I.D.**

Pages 23-24: weighting seems appropriate. SUDAAN is appropriate software for such analyses. The statement that only very large SFA differences will be significant likely is true.

Page 24: the reporting standards seem reasonable. I am not a big fan of strict cut-offs, so I would hope that an interesting result just outside the cut-offs would still be reported but with a caveat about the sampling accuracy. That is, it would be unfortunate to miss a potentially large and important result due to a strict rule about statistical significance. Of course, the authors' standards are acceptable and stated clearly.

- **VI.B.**

Page 160: data collection on food consumed and sold is described clearly and reasonable efforts in a difficult situation seem to have been made.

Page 161: computing both unweighted and weighted averages for nutrients seems appropriate given the difference in what they represent. The weighted averages probably more accurately reflect what students actually receive, but appropriate data are harder to gather. Noting where there are big differences in the unweighted and weighted averages could be interesting.

Page 162: two tailed tests and SUDAAN software are appropriate for conducting significance tests. I am not a big fan of strict cut-offs, so I would hope that an interesting result just outside the cut-offs would still be reported but with a caveat about the sampling accuracy. That is, it would be unfortunate to miss a potentially large and important result due to a strict rule about statistical significance. Of course, the authors' standards are acceptable and stated clearly. In this case with many nutrients, one could also see many nearly significant results, and that I think would be interesting, or at least suggestive of an effect that could be studied more.

Page 164: I am not an expert on the regulations, but if the regulations require SMI nutrition standards, then it seems appropriate that they are used for reporting. Hopefully the data could be used for revised standards as well. In the future, data collection should be forward-looking so as to take into account likely changes. It would be advisable to at least collect some data to enable comparison of current and future likely standards and procedures. Such 'calibration' or 'bridge' data collection could be particularly useful in a time of change.

- **VII.B.**

Page 199: conducting both weighted and unweighted analyses is appropriate – see comment above on page 161.

Page 200: two tailed tests and SUDAAN software are appropriate for conducting significance tests.

- **VIII.B.**

It seems that care was taken to make SNDA-III comparable to SNDA-II in important ways.

Page 238: two tailed tests and SUDAAN software are appropriate for conducting significance tests. Footnote 8: substituting SNDA-III standard errors when SNDA-II standard errors are not available probably is conservative as mentioned in the footnote.

- **Appendix C.**

Page C.3: I agree with the following: “it was important to replicate as closely as possible the analysis procedures specified in USDA program regulations as well as methodologies adopted in previous studies.... the nutritional quality of NSLP and SBP meals was assessed in SNDA-III using both approaches to nutrient analyses. An *unweighted* nutrient

analysis provides an approximation of the average meal *offered* to students. A *weighted* analysis produces an estimate of the average meal *served to or selected by* students.”

Pages C.4-C.9: The computation of nutrient content seems to have been done very carefully in a well planned manner.

Table C-VI.1: would it be easier to compare differences if number of portions served/offered were also reported as percents of number of reimbursable meals? For example 255/550 is a lot more than 100/300.

2. Vol 2

- **I.C.**

Similar to volume 1 information on design, but includes information on the parent and student surveys. Response rate information is similar, but includes information on the parents and students. Response rates generally are quite good for such a large and involved study.

- **I.D.**

Weighting is important due to the multiple stages of random selection. The decision to create four sets of weights (instead of potentially many more) is a good idea. SUDAAN or Stata packages have that can do appropriate estimation and estimation of standard errors for the multiple stage design. SUDAAN I think runs within SAS typically. SPSS now has a complex surveys module, but I do not have experience with it. The R statistical package also has a relatively new survey package. In the future, I would suggest preparing information on accessing the data set in R as well as SUDAAN and Stata. By the way, are the data going to be available with commands to help the user get going and do proper variance estimation?

Two-tailed tests are appropriate. The discussion of statistical significance is accurate and clear. Issues of power and minimum detectable difference are accurately described. The chance of false positives also is real in situations like this with multiple testing of hypotheses. There is not a clear way to deal with multiple testing that really is adequate.

The statistical reporting standards are clear and relevant. See also comments on volume 1 page 24.

The statement that significant differences are not necessarily *caused* by the school food programs is true; interpretations that suggest a causal factor need to be taken with a dose of caution. (page 24)

Regression adjustment (page 24) is a standard procedure in observational studies. How well it works in a particular case depends on the variables used for adjustment and their

relationship to the outcome. We will only see this in sections that report on the regression adjustment modeling.

Propensity scores are an appropriate tool (page 25) for matching based on several variables to control for confounding. The degree of success of such an approach depends on the variables used for matching and their relationship to the outcome. We will only see this in sections that report on the propensity score implementation. In principle, propensity score adjustment could be used in place of the earlier regression adjustment – it definitely would be interesting to see if results changed significantly when using propensity scores. Actually, both methods can be used simultaneously: propensity score matching followed by regression adjustment. I encourage the authors to perform such an analysis and report results for some key outcomes.

- **IV.**

A multivariate analysis, such as this, definitely is warranted given the interactions among various factors affecting participation.

Why probit modeling? Logit modeling could be used. Results likely would be the same.

I know the predicted probability of participation computed by holding values at the mean other than the predictor variable of interest is something that is done (page 114), but to me it seems odd. There might not be anyone with these average values. If instead you computed the average estimated probabilities for all girls, then you could avoid having to consider an artificial person with variables equal to the means. Logit modeling also could be used: logistic regression can be used to estimate odds ratios, which do not have to assume value for other variables.

Can you produce standard errors for predicted participation rates? I see the p-values so I have some idea of standard errors, but in general reporting standard errors gives a lot of information.

Table IV.2: At some point it was mentioned that -- was to be used when samples sizes were too small to report results. Here, -- means that the category is the base category and it would be redundant to report a p-value. This could be added to the description at the end of the table.

Results generally seem to make intuitive sense, which is good. The description of results is fine. Again, standard errors of predicted probabilities would be useful.

Where is OVS defined? (page 123).

Table IV.3: see comments on table IV.2.

One thing you do not get from this marginal analysis is an analysis of interactions. Logistic regression modeling with this many variables would be a lot of work, but it might yield some interesting findings.

Are survey weights used in this analysis? In particular, is SUDAAN used for the probit regression modeling and producing standard errors? Perhaps you can mention this near the start of the chapter. There is debate about the use of survey weights in analytical modeling. I think in any case one should look at the standard errors taking account of the design. Please clarify what was done and how.

- V.

Pages 130-131: Methods for measuring dietary intake seem reasonable. The subsample of 29% of students who completed a 2nd 24-hour dietary recall should yield some interesting information. Why was it 29%? I do not recall seeing discussion of this subsample elsewhere. Perhaps I will find it in an appendix.

Table V.1: some horizontal lines would make the table a little more readable.

Page 137: Regarding the assumptions for the EAR cut-point-method for Iron and menstruating females, it would be interesting to compare the EAR cut-point-method and the probability method for groups for which the distribution of Iron is not thought to be so extremely right skewed, such as males and younger females. It would seem that this data set could be used for some interesting comparisons.

Page 139: the statement that the results of comparing participants to nonparticipants are not causal was made earlier and is good to repeat here.

Page 140: regression adjustment and propensity score modeling are two common approaches to trying to deal with confounding and causal analysis based on observational (rather than experimental) data. As mentioned in volume 2 I.D comments, it would be interesting to contrast these methods for some outcomes for which they both could be used. It might also be possible to combine them for possibly added adjustment.

Page 141: were interactions among variables (at least some two-way interactions) considered in the regression modeling?

Page 143: how was the 29% determined? Perhaps appendix H will tell me.

Page 143: I will be interested to see how variables are used and if interactions among variables are used in the propensity score modeling. In particular, do you check for balance in covariates between the groups before and after matching?

In general the approaches seem quite appropriate. The challenge is in effective implementation, which I'll see in the Appendices.

References for propensity scores? Rosenbaum and Rubin 1983, 1984, and 1985 for example are three that set out foundations. There probably are other recent students related to nutrition or school studies that could be cited. Some other references probably could be cited that compare regression adjustment to propensity score modeling.

3. Vol 2 appendices

- **Appendix A**

I agree that determining participation is critical for an accurate assessment of the effect of program participation. The comparisons seem relevant and appropriate. The participation definitions chosen seem to match benchmark rates the best and they seem to be feasible to implement.

- **Appendix C**

Probit models were used in Stata using survey estimation commands accounting for the complex sample design and associated factors. Logit modeling would likely have given similar estimates.

Page C.4: missing data: as missing rates of information for items was not high, the methods chosen for imputation likely are not going to have much of an affect. Still, it would be interesting to compare with some other imputation schemes. Instead of imputing means and modes by region and grade level, could the missing variable be modeled? Could a donor be found through matching? It would be interesting to see if much happened to estimates for some key variables using different methods. Finally, some sort of multiple imputation would be interesting to try. Perhaps computing distances from an individual with a missing value to others in the same region and grade level and then choosing 5 random donors would be a way to create the multiple imputations. Then use formulas of Rubin (1978, 1987) to estimate the inflation of variances due to missing values. Studies along these lines would be interesting to see in this study. There also is IVEware from Michigan for handling missing values in complex surveys: I think that software is to the point that some analyses reported in this summary could be run for comparison to the stated results.

Table C.1: For the largest model, can you display estimated standard errors for parameter estimates? Did you consider any interactions?

- **Appendix E**

Page E.4: see comment on page C.4. on missing data and imputation.

A real challenge here is the number of predictors and the number of outcome models to develop. Some effects you probably want to force to be in every model. Others could either be in or out. Also some interactions might be of interest (or at least increase predictability somewhat). Did you consider some version of automatic variable selection along with some interactions? I would think that interactions between sex and race and age at least might be of interest.

Did you plot any residuals for any of the variables? Perhaps you don't need to do this for all variables, but at least for a couple of the more high profile nutrients you'd want to do some model checking. Would a transformation (logarithm or square root) perhaps increase predictability?

A table ranking variables by R-squared would be interesting to see. Which nutrients are most predictable? A similar table ranking by estimated effect also would be interesting. That is, there probably are other ways to display results to better communicate what all this modeling has produced.

A graph would be good to see: plot the estimate effect of NSLP or SBP without adjustment versus with adjustment – one point for each nutrient. This would give some idea of where the differences are due to adjustment. You could have different symbols for different p-value ranges placed at each point.

- **Appendix H**

As I understand it, the PC-SIDE software is the standard for analysis of dietary intake data; it has been documented and used in many applications. More citations could be given to justify the use of the program: the Nusser et al. (1996) article has been cited 89 times according to ISI Web-of-Science Science Citation Index. In any case, this seems like a very acceptable approach.

Page H.5: jackknife replicate weights: There would be other sources for jackknife replicate weighting as well; it is a fairly well established method. In any case, this too seems like a very acceptable approach.

Page H.5: footnote: do you have a reference for the Chromy procedure? I think it might have been Cromy elsewhere in the document (or perhaps I just spelled it this way in my notes).

Here is the recurring question: was 29% of students for the 2nd 24-hour dietary recall sufficient? Why 29%? Was this suggested due to practical and budget considerations? Was this suggested in a research article or the PC-SIDE manual?

Page H.7: can you use PC-SIDE for some subgroups for Iron and contrast these results to the probability method? It would be interesting to see if there is a difference.

Did you assess the adequacy of PC-SIDE assumptions (EAR) for other nutrients, or was Iron the only one considered due to prior knowledge about Iron?

- **Appendix I**

It would be interesting to compare regression adjustment to propensity score adjustment or the combination of these when both can be done. In this appendix, propensity score adjustment seems like the only option. *** I see that you do this in Tables I.9-I.12. Thank you.

I see the references on page I.4.

The description of the process of propensity score estimation and adjustment seems accurate.

Page I.6: Splitting the sample by school level probably is a good idea as participation factors likely are quite different across age levels.

What software was used to estimate the logistic regressions?

Page I.8: footnote 3: methods for incorporating uncertainty due to the fact that matching was done are generally not available and certainly are not standard, so I don't think it is a major defect that this was not done. This would be a separate research topic by itself.

4. Vol 3

- **I.**

Fine. Extra period on page 1 2nd paragraph 2nd line.

- **II.**

Page 3: It is good to have many PSUs and to sub sample from an existing frame.

Page 3: It is good to pre-select alternates

Page 4: It is good to make use of auxiliary information in a planned way.

Page 5: It is good to stratify with implicit stratification: this increases precision and balances the number of schools across strata. How exactly do you do it here?

Page 5: footnote: define MOS as measure of size and tell us what it is. Is it enrollment or square root of enrollment?

Page 5, line -1: Define PPS as probability proportional to size.

Page 7: Could the number of SFAs with no on-site data collection be increased?

Page 6: How may 'wildcard' SFAs were used? I can't tell from this section.

Page 7: The sample modification for small SFAs seems reasonable.

Page 7: PPS could be PPS sampling and the sentence could be split into two sentences. What is the measure of size here?

Page 8: Absence from school is likely unrelated to goal of study, but hard to study. It is reasonable to proceed without further study for this report.

Pages 8-9: Selection of children and parents seems good.

- **III. E.**

Page 33: Weighted response rates are appropriate. Does this include wildcard schools from page 6?

Page 34: Parent consent could be related to outcomes, but doing anything about this nonresponse could be quite difficult. In general, response rates are quite good. All that likely could be done is a nonrespondent follow-up study, but it would be expensive for the probable gain.

- **V.**

- A. SFAs.

Page 65: define MOS as measure of size; what is it?

Weights look OK.

Nonresponse adjustment within region is a good idea, better than overall.

Ratio adjustment is OK, but why not within region?

- B. Schools

Page 68: which schools are selected with PPS? Please describe how a school would be in this group.

Page 68: nonresponse adjustment within region and school size is a good idea. When are cells too small? Less than 30 (see appendix).

Page 70: poststratify: why not by region and school size?

- C. Students and parents

Student section looks OK.

Parents: good nonresponse adjustment model. How different are these adjustments from simpler adjustments? Can you provide parameter estimates and standard errors?

- **References**

Add SAS PROC SURVEY SELECT manual references and reference to PPS Cromy's method.

- **Appendix A**

It is good to have this documentation.

1. Memo FRAME-010

Good plan to collect needed auxiliary information for an efficient two-phase selection plan.

The CCD and Census school mapping project are appropriate data sources.

Imputation of poverty seems reasonable. Are there any follow-up data from the survey to check imputations?

Page 4: LEAID – what is that?

Imputation of size seems OK. Are there any follow-up data from the survey to check imputations?

Page 5 footnote: Do you have evidence concerning DEFFs within strata now that you have done the survey?

Page 6: MOS = square root of number of students (line 3)? I did not see this in earlier sections of volume 3. Please clarify what was done.

Good study to suggest MOS.

Table 3: you could indicate in the table title that this is an experiment and not actual data.

2. Memo FRAME-054

Page 1 footnote: reasonable adaptation to slow response from a couple of states.

Table 2 would be clearer with more structure for noncertainty strata: region x poverty.

3. Memo FRAME-055

OK except for page 5 footnote: Elsewhere cells were collapsed (it was mentioned).

Please check this.

4. Memo FRAME-073

Additional weights: issue of larger variability due to smaller sample size and more variable weights is a concern, but if there is little actual impact then don't adjust weights further or issue trimmed weights (I agree with conclusion).

**Dr. Deborah Carr: National Food Service Management Institute
Comments on Vol I: School Foodservice, School Food Environment, and Meals
Offered and Served**

Review focused on quality of the report component, findings and conclusion, possible oversights, omissions, inconsistencies, and limitations.

- The report is well written with a well structured report outline.
- Sample sizes for schools' participating appear to be a limitation and maybe not even provide random representation. Findings may not be generalizable. Clarification addressing this issue must be included with all published info associated with this study.
- Unclear regarding the period of time the nutrient info represents. It appeared that the collection time (January – June 2005) is not the actual reporting period that this information represents. Is this more of a snapshot view on the topic?
- Page 9 – Should the word significantly be used when there is not statistical significance associated with what is being described?
- Page 10 and 63 – there are some spacing/formatting issues. Also, adequate dining space could be included as a possible issue impacting the school meals environment.
- Many of the tables reporting percentages should include numbers associated with the percentages. A layperson will not understand n=.
- Page 67 – Was reported data validated in some way?
- Page 142 – Interesting finding regarding peanut butter sandwiches as the most commonly available entrée in elementary schools. This finding is questionable with all the increased discussion regarding peanut allergies of young children. Maybe this is due to the small sample, etc.
- Page 159 – Regarding the possible implications for the discussion associated with sodium.... “offered and served” lunches high in sodium. Some of the discussion seems to imply schools are not addressing the issue, but the data appears to show a slight decline since SNDA II.
- Page 162 – More of Appendix C should be included in the body of this section to improve understanding and clarity of the section.
- Page 172 – Discussion regarding sodium is a concern...especially of later discussion comparing SNDA III or SNDA II on page 234 that reports no progress was made toward lowering the average sodium content of NSLP lunches served.
- Page 173.... – The terms *served* to students (or selected by) and lunches *offered* appear confusing. Is there a clearer way to describe this? In other places of the report terms seemed to be used interchangeably. Once again, I am thinking of the layperson reading and interpreting the findings.
- Page 234 – The tone for the summary findings for NSLP lunches appeared to be a little negative, when there were opportunities to present in a more favorable light.
- The report would be more balanced if the positive findings were highlighted.

It will be important for the executive summary to summarize the main highlights (pros and cons) of the report and provide a strong “so what” to the findings. This will be the doorway to the rest of the report, and for many, the only information of the subject that will be utilized.

Jeannie Sneed, PhD, RD, SNS, CFSP, Sneed Associates
**Volume I: School Food Service, School Food Environment,
and Meals Offered and Served**

The School Nutrition Dietary Assessment Study-III was very interesting and well done. Comments for improvements to this report are divided into two sections: section one presents comments on content and section two presents comments on style of presentation of the research study.

Section One

Overall, it was a bit confusing what the authors were trying to achieve in the report.

1. Sometimes they referred to other research, but not consistently. Thus, it was confusing if the goal was just to present the results of this study or to put these results into context with the larger body of research. If the latter is the case, they did not do a good job of that. For example, on page 7 they refer to food consumption data in the 1996 Continuing Survey of Food Intakes by Individuals. There is other research that indicates that children who eat a school meal (compared to sack lunches, for example) have higher nutrient intakes.
2. Sometimes in the various sections, data (results) only are presented. Yet, sometimes the section begins with a value statement not supported by specific research. The Food Safety and Sanitation section begins “high-quality food safety and sanitation practices are critical for any food service program.” Other sections did not begin with such a statement. It seems that the approach should be consistent for all sections.
3. References are needed to support many statements. For example:
 - a. The first statement in the nutrition education and outreach section (p. 59) needs to have a reference.
 - b. School meal-scheduling policies (p. 63) needs to have references.

School meals programs provide one to two meals about five days a week during the school year to students, so these meals represent only a portion of what most children eat in the course of a day. Thus, it seems more appropriate to refer to the objective of the programs to provide “healthy, well-balanced meals” rather than “healthy, well-balanced diets” (see page 3).

On page 10, it seems that there should be some mention of parents’ role in obesity prevention and the food availability at home. This report emphasizes the role of school nutrition programs in children’s intake, but does not recognize that parent’s have a major influence on what children will eat, whether or not they eat school meals, etc.

It would be useful to know how the 129 SFAs were selected (page 13). Also, the power estimates for the sample size should be included. Were all sizes of schools included, and

what was the regional representation? Even though this information may be in some other section of the report, a brief statement should be included in this volume.

On page 28 pouring rights contracts are discussed, but by including it in the same paragraph as purchasing cooperatives and the DOD Fruit and Vegetable program, it makes it appear that the school foodservice director manages the pouring rights contracts. I would guess that is typically done by school superintendents or principals. Later in the document that is clarified a little, but I think it should be done here, too. Also, I believe that pouring rights contracts should be presented in a separate paragraph from foodservice purchasing.

Denise Brown also published a study (*Journal of the American Dietetic Association*) done on types of food production systems used in schools. That was published fairly recently and would provide a good comparison for the representativeness of the data presented on page 32.

Table II.3 This table needs some clarification to stand alone and be interpretable. For example, “Received fully plated meals prepared off-site” needs to be clarified. Are these meals purchased from another entity? It is unclear what is meant by the section “among schools that did not received fully plated meals”.

It is stated on page 35 that “the school nutrition community protested proposals”. I believe that protested is too strong of a word. I would say that they expressed concern (based on some very realistic limitations of school districts and school district directors at the time of the proposal). Further, the results of this study largely show that there is little difference in nutrient quality among the three types of menu planning systems—so there is little support that NSMP is a superior system.

In many states, there are licensed dietitians (rather than licensed nutritionists), thus, both terms should be used on p. 35. That should also be indicated on Table II.5.

Table II.5: Would “level responsible for menu planning” be better than “Responsible for menu planning”? Is it “family and consumer sciences” rather than consumer sciences? I would separate the SNS credential and the SNA certification. They are two separate things. It is “Fight Bac”, not “fight back”.

On page 29 (first line), is it “averages for nutrients”?

Table II.6, *Serving it Safe* is NOT a HACCP system. HACCP plan is not the term used by USDA—it is a food safety program based on HACCP principles—so that is the term that should be used in this document. In the pure sense, these are not HACCP plans.

It is unclear how it was determined that “this seems to be a relatively reasonable length of time...” (p. 67).

If there is not a statistical difference, then there is NO difference and it should not be presented. For example on p. 135 there is a statement “High schools were almost three times as likely as elementary and middle schools to offer entrée salad bars (27 percent, versus 10 percent of both elementary and middle schools), although the differences were just short of statistical significance at the .05 level”. Suffice it to say there is no difference.

Percentages are reported, but there is nothing specific to tie the percentages to. For example, p. 154 “71 and 73 percent for the other systems” but we don’t know specifically for which system.

Were characteristics of menu planners compared among the different menu planning systems? Nutrient-based might be more likely to be used by registered dietitians, and that might impact food choices.

The statement “To assist school food service personnel in preparing healthy meals that are consistent with SMI nutrition standards and that children will eat, the USDA Food and Nutrition Service (FNS) provides training, technical assistance, and other resources to participating schools” seems out of place here (p. 157).

The statement “Together with analyses of the foods offered information on nutrient content and compliance with SMI standards can be used by policymakers and program staff in their ongoing efforts to develop strategies for improving the nutritional quality of school meals” seems out of place here (p. 157). This seems like a statement for the introduction or executive summary, rather than here.

On p. 168, clarify that 1/3 is recommended.

The statement about failing to comply with fat standards (p. 171) seems troubling when the percent was 10.6 to 10.9 (when 10% was standard). This very small difference could be estimation error. Isn’t there some margin of error allowed?

When “meeting the standard” is discussed, it should be clear whether they fell short or exceeded the standard. For example, on p. 175 the percentage of schools that met the energy standard decreased—clarify whether too few calories or too many. This occurs throughout the discussion. Also, in tables when it is reported that a certain percentage satisfied the standard, how was it interpreted? What if they exceeded the standard for Vitamin C (for example)?

On the dietary fiber discussion (p. 179) how much low were they? Is fiber data in data bases really accurate?

It is unclear what “similar sausage products” are (p. 194).

I wonder if there should be some discussion on results if nutrient intakes from breakfast and lunch meals were combined? That would be more reflective of total dietary intake—and that is really what we are most interested in from a health and nutrition perspective.

p. 203 Specify for food energy if it was high or low. This could be clarified if the second paragraph was included after the first sentence in the section. Also, eliminate the “not surprisingly” statement.

Avoid using terms that might be construed as a brand name. For example, on p. 228 “super” baked goods is mentioned. Super Donut is a company. I think that it is clear just to refer to them as “foods fortified” or “highly fortified”.

It was good to see the references about high sodium intakes for the U.S. population. It is very difficult to consume a diet with 2400 mg sodium.

It would be good to see in the Executive Summary some discussion regarding significant differences and practical differences. A difference of 19 calories may be significant, but of little practical importance. Also, it is important to include information about database changes, and the fact that these are estimates with some degree of error.

It seems redundant to use *Dietary Guidelines* goals. They are guidelines.

Section Two

The written report needs to be more carefully edited for grammar, style, and consistency. The following are examples of some of these problems:

- P. 6 “findings concerning fat were one factor”
- Sometimes there is reference to school districts and sometimes to SFAs. It seems that the same term should be used consistently.
- Nutrient-based and nutrient standard seem to be used interchangeably. It would be less confusing to consistently use the same term.
- P. 19, would it be “school enrollment” and “district urbanicity”?
- P. 27, it would be better to say “program personnel and policymakers”—that would make the two groups people (who can make decisions).
- “Which” is sometimes used when it should be “that” (see p. 35).
- Students who, rather than students that.
- It is between two and among three or more (p. 133).
- Consistency in use of commas in series is needed.

Consistently throughout the report, inanimate objects (schools) are reported to do actions. For example, on page 18 there is a reference to reluctant school districts. That would be school foodservice directors and school administrators who were reluctant, not the school

district. There are numerous examples of this throughout the document. For example, on p. 35 it is stated that schools planned menus.

The first sentence under analysis samples on page 23 is confusing. What are analysis samples? Perhaps you could be more straight forward—analyses were conducted at two levels, SFA and school.

The current term for the School Nutrition Association credential is School Nutrition Specialist (SNS). On Table II.5, that term should be used and ASFSA should be updated to SNA, both in the text and footnote in the table.

Tables should be reviewed and clarified.

- Tables need to be examined to make sure that they stand alone.
- They should be examined to determine how to make them more interpretable. For example, Table II.7 would be easier to interpret if the percentages with each question were ordered from high to low. This would make other tables easier to interpret, too. Also, in Table II.7 it should be farm-to-school program.
- It is not always clear what is being reported. For example, Table II.8A does not indicate that it is percentages being reported. Also, it seems like both the number and percent would be reported.
- Table titles are not always clear.
 - For example, Table II.9 states “Pricing of Reimbursable Meals”, yet it is factors that are reported. Based on the title, prices would be expected.
 - Table V.1 Is it “amount of menu item choice...”?
- Is it proportion or percentage?

The sentence regarding nutrition education programs used in the classroom (p. 60) is unclearly written.

Consider omitting statements such as “not surprisingly” (p. 146).

If on page 160 the term NSLP lunches is used, would it not be consistent to use SPB breakfasts?

On p. 161, should it be NSLP and SBP meals?

Is it nutrition standards or nutrient standards (p. 197)?

The use of “since” needs to be examined. Since is used appropriately when making temporal comparisons, but has been use incorrectly indicating relationships. For example, on p. 236 it should be “because the differences were minimal...”. Similar examples occur on p. 238 and 239.

Dr. Lenore Arab, David Geffen School of Medicine (UCLA)

Comments on Volume II: Student participation and Dietary Intakes.

This is very important report of a thoughtfully conducted and well analyzed study. All in all, the methods used are of excellent quality, participation appears to be high in the analyses are appropriately being conducted with the aim of a nationally representative sample. There are a few general points listed below that could enhance the utility of this report. Following this are specific comments addressing individual tables and text.

General comments:

1. Sensitivity and Specificity: Since the accurate estimation of the utilization of the NSLP is central to these documents and utilization is derived from algorithms involving foods reportedly consumed and foods reportedly served, attention should be given to reporting errors by age group, as well as the likelihood of mismatching foods, including for example presenting both conservative (exact matches), and more liberal (close matches) estimates of utilization of the program. Furthermore, confidence intervals should be presented on the quantitative estimates in the report text and tables.

The sensitivity and specificity achieved in accurately identifying participants is obviously important for the participation estimates, and is even more important for the findings employing the Dries. It seems apparent, since the survey results over estimates participation as compared with administrative records that the algorithms used are likely to be too liberal and tend to include nonparticipants in the participant group. It is also quite possible that the foods themselves attributed to the breakfasts and lunches of the participants may be over estimates. The report would be enhanced through sensitivity analyses that employ more conservative algorithms that result in a closer alignment with administrative estimates of participation.

2. Participation bias: It is not evident from this part of the document whether participation biases were explored. It's important to know whether those participating in the survey as NLSP participants SES differed from nonparticipating students within the same SES. Also, it would be of value to know if non-lunch eaters were less likely to participate in the surveys than do students who eat lunch at school.

3. Concordant Responses Since it can be reasonably assumed that not all parents are correct in assessing their students' participation in the NSLP; an examination of the concordance of the parent/child responses is desirable. This would lend more confidence to the results from the parents and their utility in any further attempts to enhance the program. More specifically, sub setting the responses of parents who say their children participate and whose children report participating and reporting on their responses and impressions of the program would be desirable.

4. Peer Pressure: Potentially important dimension of peer pressure does not seem to be addressed in this report. An exploration of the impact of peer pressure on participation in

the school lunch program would be desirable. It would also be desirable to examine trade-offs such as whether students are choosing physical activity during the lunch hour over NSLP participation.

5. Rates and Averages Participation in the program in tables II.1 to II.4 is referred to as average rates. However, it is not clear, what is being averaged and the numbers do not appear to be rates, and might be more accurately described as a percent participation.

6. Nationally Representative Results : Since a sophisticated survey design was employed that aims at achieving national representative and weighing factors towards this and are used, the tables presented in section III would by and large be of greater utility if they reflected rates per thousand children in their respective age or grade level groups. This would allow the reader to compare the results across studies. For example the reader could compare BMIs with those in NHANES if the responses were standardized to the national distribution.

Specific comments:

Page 27 **Summary of Findings Point 1:** Efforts should be undertaken to calculate confidence intervals and they should be presented in the summary, along with in the text and tables

Page 28 **Students Reasons for Participation in Nonparticipation Point 3:** please define "taste" in this context

Page 29 **Satisfaction with School Meals among Students**

Point 1: The reference to students who ever ate school lunches is not clear, was 'in the course of the school year' being assessed or 'lifetime'? Username different denominators ("ever ate" versus "ever or never ate") for different grades makes it impossible to compare results across grades. Since the purpose is to potentially enhance participation in the NSLP is equally important to include those not eating lunches in the assessment of satisfaction. This is being done for grades four to 12 but not for grades one to three.

Point 2: because of the ambiguity in the denominator referred to in the previous point it is unclear how all students' comments can be grouped together in this point. Does this point pertain to the participants, the nonparticipants, or all students? Also, it would be useful to present the percentage of parents who expressed dissatisfaction with school lunches

Parents Views on Availability of Competitive Foods: the wording here is unclear: "... parents disagreed with the availability of..." perhaps what is meant here is that they disapprove of the availability of competitive foods.

Page 30 It is unclear as to whether "Improving the school meal programs" refers to improving the menu quality or improving the participation in the program.

Page 31-32 This section on participation does not clearly describe the algorithm used to determine participation. There seems to be some combination of what a student reported consuming, whether they reported it consuming it in the context of a school lunch and what combinations they needed to report for it to be considered a school lunch. More details should be presented on how this was done and what degree of certainty is involved. For example, if student reported eating foods that were on the menu, but reported not eating school lunch, where they nonparticipants?

Page 32 First sentence: "for lunch only" -this is unclear. The method of assessment was reportedly a 24 hour recall. A 24 hour recall involves the assessments of all foods consumed over a 24 hour period. However there is an implication that only lunch was assessed. If this was the case, the methodology should not be referred to as a 24 hour recall, but rather "yesterday's lunch recall". Please clarify this

Last sentence: "consuming items from the school menu that counted towards three of the required for meal component groups." is unclear. Does this relate to reported items or items reported as being from the school menu? Also, what degree of detail was needed to match the item? For example, was it a report of having eaten fruits or a specific fruits i.e. an apple or a report of applesauce, matching the school item as offered being apple sauce.

Page 33 The criteria presented which define participation are too vague. More detail is needed here to understand the linkage used to determine whether students in standard menu planning schools were participants.

Target Day Breakfast Participation: the report often clearly distinguishes reporting foods from eating foods and should continue to do so consequently. However, in this section it is neglected. So, for example, the language stating "were counted as SBP participants *if they consumed* at least..." should be replaced with "were counted as SBP participants if they *reported consuming* at least.."

The sentence "The measures selected were the best compromise between the data sources discussed above, as judged by matching to administrative data and internal consistency." Should be deleted and replace with something less self aggrandizing, unless they can prove that this was the best compromise.

Page 34 The fact that the participation based on direct assessment differs from the administrative data is disconcerting and serves further discussion here. This finding further supports the need for confidence intervals on the estimates in the reports. Also, the difference should be presented, along with the percent participation that would have been estimated from administrative data.

Further down in the page the sentence beginning with "Many fewer..." would be more elegantly replaced with "Considerably fewer" or "A lesser number of". The same

sentence should be expanded to include the percent participation in the program among only those schools that did offer the program.

Pages 35-36, 38-39 As mentioned in the general comments these tables appear to reflect participation percentages rather than average rates. In addition, the tables would benefit greatly from including with the numbers of individuals upon which these percentages are based for each school and category and columns with the confidence intervals on these estimates. Also, the footnotes to these tables should present enough information so that the reader understands the matching process undertaken without having to read appendix A. The report should include adequate detail in the footnotes to allow appropriate interpretation of details results as a stand-alone table.

Page 37: "Usual Participation Rates"-- Was over reporting of usual rates compared to target day rates expected? This should be explained. Further down in the following paragraph "*more likely to usually participate...*" should be replaced with "*more likely to report usual participation...*"

Page 42: "Other" the category other seems to be quite large. And therefore might be quite significant to the purpose of these reports and useful to elaborate upon this catchall. It would be useful to clarify whether it is feasible that elementary school students eat lunch off campus.

Page 43: There are two points here that it might be quite important and deserve more attention. Waiting in line may be, in fact a major deterrent if it is reported by 71%. If this is a major deterrent other interventions to enhance participation may be futile. This should be explored in more depth. The second point relates to perceptions of stigma. Is there a stigma associated with participating in the NSLP? in which environment?, in which grades?, how great is it? and can it be overcome?

P 49 This is a table in which might be useful to add on the information on concordant groups, where the student and parent both report participating in NLSP.

Chapter III: By and large this is a very straightforward chapter providing descriptive results as percentage of students for many of the categorical variables. When the purpose of this section is to both identified differences between participants and nonparticipants and to determine the external generalizability of the findings.

The comparison between participants and nonparticipants is only useful if we have great confidence that these groups are appropriately identified with high sensitivity and specificity. The report does not address sensitivity and specificity adequately, nor does it provide some alternate means by which the confidence in identification can be assessed other than acknowledging that the estimated participation exceeds administrative estimates.

The section is not particularly useful for an external generalizability with the data presented as percentages unless in each case the data has been weighted to make each of

the estimates nationally representative. So, for example, have the regions of the country that have been sampled in weighted so that the annual income estimates can be compared with national estimates? Although the footnotes say that to weighted tabulations have been undertaken, it is unclear as to the extent of weighting having been conducted to bring each response reported to a nationally representative estimate.

Page 133 Dietary Reference Intakes are accurately described in the methodology described is appropriate for the purposes of this report.

Page 150: Sentences two and three of the final paragraph relate comparisons over time to differences between participants and nonparticipants. The logic of this is not clear.

Page 150 The last sentence of the first paragraph suggests that higher levels in NSDA III as compared with NHANES might be due to lower intakes at breakfast during the summer, and on weekends. This appears to be highly speculative and not necessarily logical.

Section B. This discussion returns, the reader to the question of whether or not those skipping lunch or more likely to not participate in the survey and lunch consumers. Any information that might address this concern might be useful.

Page 169: It is suggested that differences in reported energy intake is of participants versus nonparticipants may be due to some nonparticipants not consuming lunch. It would be helpful to test this patent, quantify the impact of non-consumers on this differential by analyzing the lunch consuming and nonparticipants as a group in addition to the entire group of nonparticipants.

Page 176 Applying the AIs for total fiber went only dietary fiber has been assessed is problematic. It is asserted that the contribution from functional fiber would not alleviate the disparities between recommendations and usual intakes. Any citations or quantification's supporting this assertion would be useful.

Page 213 Here again, it is suggested that the trends in 24-hour energy intakes over time are not consistent with the expectations from NHANES because of weekends, holidays and summertime intakes in NHANES but not in SNDA. Alternative explanations should also be included, including the potential for methodological differences and selection biases.

Point 3: It is surprising that neither this section nor Table VI.15, which address mean usual intakes and comparing SNDA III with NHANES do not include the reporting of total energy intakes from both studies for comparable age and gender groups. Total energy intakes should be added here.

Page 219 The footnote has a spelling error for “sample”

Page 266 Section I is a reiteration of the text on page 208. One might consider combining these results that make comparisons across studies.

Dr. Karen W. Cullen, Children's Nutrition Research Center, Baylor College of Medicine

Volume II: Student Participation and Dietary Intakes

Volume II of the third School Nutrition Dietary Assessment study (SNDA-III) focuses on the characteristics of students who participate in the National School Lunch Program (NSLP) and School Breakfast Program (SBP), student and parent satisfaction with the school meals, and descriptions of the dietary intakes of schoolchildren. Data for this volume were obtained from student 24-hour dietary recalls, student height and weight measurements, and parent and student interviews.

The objectives of this volume are clearly identified. Overall, given the complexity of the material and the details provided, this is well written and the results presented in this volume are very clear. Most of my comments are related to the presentation of the some of the summary findings at the beginning of each chapter, and on the presentation of results by grade level, ethnicity, or income level. My comments and suggestions are found after each section below.

II PARTICIPATION IN, AND VIEWS OF, THE SCHOOL MEAL PROGRAMS

A. SUMMARY OF FINDINGS

These section summaries are very helpful and important. Given that many readers only review study summaries, it might be helpful for these summary findings to also highlight grade level differences (elementary-middle-high school) when found. Both grade level and ethnic differences might also be added to the summaries on student and parent reasons for participation, student and parent satisfaction with school meals, and parent views on competitive foods and suggestions for improving school meals.

Also under parents' views on competitive foods, I would suggest adding a bullet on parent knowledge (or lack of) of student access to vending/snack bar, etc.

I also think the information presented in pages 56-61 should be in bullet form in the summaries-under parent knowledge of school meals programs. This information is presented in the specific sections, but would be of benefit in the summaries.

A bullet on p. 43 findings (environmental conditions influencing student lunch) might also be useful.

B. PARTICIPATION RATES IN THE SCHOOL MEAL PROGRAMS

This is clearly written and the material well presented.

C. REASONS FOR PARTICIPATION OR NONPARTICIPATION

1. Reasons Why Students Participated and Did Not Participate in the NSLP.

I would also present the material in Table II.8 (awareness of which students receive free/reduced price meals) by grade level. This is related to the “stigma” associated with eating school meals, and is a pertinent topic for possible intervention. There could be important differences by grade level.

D. SATISFACTION WITH THE SCHOOL MEAL PROGRAMS

4. Parents' Opinions on School Breakfasts

All sections except this one and #5 below, identify grade level differences. This section should probably note that there are few differences by grade level to be consistent (Table II.23).

5. Parents' Knowledge of, and Views on, Competitive Foods

Suggest adding grade level differences sentence.(Table II.24).

E. SUGGESTIONS FROM PARENTS ON SCHOOL MEALS

All of these sections would benefit from including whether there were grade level, ethnic or school SES differences in parent responses.

III CHARACTERISTICS OF PARTICIPANTS AND NONPARTICIPANTS IN THE SCHOOL MEAL PROGRAMS

B. CHARACTERISTICS OF NSLP PARTICIPANTS AND NONPARTICIPANTS

3. Family Income, Program Participation, and Food Security

It might be helpful to provide the latest national food security statistics as a reference for readers. They are available for 2005 at <http://www.ers.usda.gov/Publications/ERR29/>.

5. Student Weight Status, Physical and Sedentary Activities, and Overall Health

Because more NSLP participants were minority populations, who tend to have higher body weights, the BMI analyses should control for ethnicity (Table III.5), or at least presented by ethnicity. The BMI data should also probably be presented by grade level.

Plus the only statistically significant result was for “at risk for overweight” (p.95, 2nd paragraph.) This should be noted in the text. Ethnic differences should also be noted in the limitations on p.95, and also the fact that the sample is 2/3 children in middle and high schools, and older youth tend to have higher BMIs.

C. CHARACTERISTICS OF SBP PARTICIPANTS AND NONPARTICIPANTS

Suggest similar reporting of BMI by grade level and ethnicity as noted above.

IV FACTORS RELATED TO SCHOOL MEAL PROGRAM PARTICIPATION

B. DIETARY REFERENCE INTAKES

This is a nicely written section on a very confusing topic.

VI DIETARY INTAKES OF NSLP PARTICIPANTS AND NONPARTICIPANTS

The first data presented should be a comparison of the overall NSLP intakes to the USDA school meals guidelines by grade level [e.g., %fat, protein, calcium, iron, vitamins A and C, and energy]. Perhaps the columns with guidelines could be added to Table VI.2. These results should also be in the summary.

Overall, this chapter is well written and clear.

I. COMPARING SNDA-III DATA WITH DATA FROM OTHER STUDIES

2. SNDA-III Versus SNDA-I: Mean 24-Hour Intakes

Given the overreporting by elementary students and underreporting by older students identified previously, it might be informative to present table VI.16 by grade level.

Typo on p.218-last line of table (*an* should be *and*).

VII DIETARY INTAKES OF SBP PARTICIPANTS AND NONPARTICIPANTS

In the introduction, the small number of SBP participants included in the analyses, compared to SNDA-III NSLP participants, should be identified.

Suggest adding information on overall breakfast intakes compared to USDA guidelines (as for NSLP above).

Dr. Katherine Ralston, Economic Research Service
Comments on *Volume II: Student Participation and Dietary Intakes*

I reviewed the following sections of the report: Chapter I (section E only), Chapter II, Chapter III, Chapter V (section B only), Chapter VI (parts 1-5 of section A, sections B, C, D, E, F, I, and J), and Chapter VII (sections A, B, C, D, F, and I). Overall the report covers a daunting array of estimates in refreshingly clear and easily navigated prose, and explains limitations of the analyses and interpretations thoroughly. I have a few suggestions:

Chapter I, Section E. Since Part I (participation) and Part II (dietary intakes) are not explicitly labeled in the report or in the table of contents, it might be simpler to refer to them less formally as “the first part” and “the second part”.

Chapter II

Summary of findings: On page 29, under “Satisfaction with School Meals among Students”, the first bullet could be clarified with a footnote explaining that students in grades 1-3 were only asked if they liked school lunches if they had ever eaten them.

The second bullet in the same section doesn’t specify whether students were asked their opinions of specific aspects of school lunch whether or not they ever ate them. The section that explains these findings in more detail doesn’t make this clear either.

Section B, Participation Rates in the School Meal Programs On page 31-32, it would be useful to point out that school meal participants may include students who purchased the reimbursable meal as well as additional items on and a la carte basis. Later on in the report (page 210) this is included as a footnote, and it has clear implications for analysis of dietary intakes of participants and non-participants. It would be useful to alert the reader to this issue here where participation is defined, as well.

On page 34, where the participation rate for SBP is first discussed, it would be useful to discuss the implications of including students in schools that did not offer the program. Including students in non-SBP schools is clearly useful for comparing dietary intakes among participants and non-participants, since children who eat breakfast at home probably have similar patterns regardless of whether SBP is offered at their schools. Participation rates and characteristics of participants for schools offering the program would have been useful for readers interested in increasing SBP participation where it is offered. Some explanation for why this was not done would be helpful. Even adding an estimate for the percentage of all students who attended schools offering the SBP would help put the other reported estimates in perspective.

Section C, Reasons for Participation or Nonparticipation On page 53, I found it difficult to determine whether reasons for not participating in the SBP were asked of students in schools that did not offer the program. If not, this would be helpful to clarify.

Section D, Satisfaction with the School Meal Programs On page 72, in discussing parents' incorrect classification of whether the school offers a la carte foods or snack bar items, it is important to note that incorrect beliefs that the school offered these items were much more common than the incorrect belief that the school did not offer the items. These more common errors have little implication for providing guidance to their children. Further, it might be worth noting that the explanation given to parents about what was meant by a la carte items could have been confusing to parents. In table II.24 on page 73, I would change "Parent reported machines, machines" and "Parents reported no machines, no machines" to "Parents correctly reported machines" and "Parents correctly reported machines". Similarly, the next two categories would be "Parent incorrectly reported machines" and "Parent incorrectly reported no machines", and so on.

Chapter VI.

When I first read the report, I was struck by the lack of discussion of mean intakes for participants and non-participants. The discussion focuses only on differences between the two groups, even though the key research questions laid out on page 145 include "What are participants' mean ...intakes?" After reading the section on inadequate or excessive intakes, however, I concluded that the mean intakes by themselves (which are available in the table) are only meaningful in comparison to intake standards. Since other readers may at first wonder why some mean intakes were not highlighted, it might be useful to alert readers up front that interpretation of intakes is conducted in the later section.

Another omission that struck me as surprising at first but less so later was the lack of comparison of intakes to school meal regulations for nutrient content. Then I saw that the meals themselves were evaluated in Volume I, and it might be helpful to clarify this difference to the reader in the opening to this chapter.

On page 172, it would be useful to clarify that differences in mean intakes do not necessarily translate into differences in adequacy because mean intakes can be significantly different even though both are inadequate or both are adequate. Further, if variance of intakes were different for two groups, mean intakes could be the same while the percent of each group with inadequate intake could differ. If these points are considered too technical for the average reader, they could be added in a footnote.

On page 174, in the sentence on vitamin E, clarify that vitamin E deficiency is rare, when measured by levels in the blood

Section I, Comparing SNDA-III Data with Data from Other Studies. It would be useful to remind some readers that SNDA III dietary intakes could not be compared to SNDA-II because SNDA II did not include individual dietary intakes, and that meal contents themselves are compared to SNDA II in Volume I. Some less specialized readers may accidentally be looking in this volume for progress following the implementation of the School Meal Initiative, which was motivated by results from SNDA II..

In the table notes on page 215, the source of NHANES estimates should say What We Eat in America: NHANES 2001-2002 instead of 1999-2002.

On page 219, Table VI.17 appears to have incorrectly explained the asterisks and daggers in the table notes. Asterisks are given for the first two columns, but explained as referring only to comparisons between the first and third columns. Daggers are explained as differences between the second and third columns but appear in the first column, and seem to be discussed in the text on page 219 as referring to comparisons between joint participants and NSLP-only participants.

Chapter VII.

On page 235, could SBP participants' higher intakes of energy be explained by students who eat two breakfasts?

On page 252, last paragraph, it would be useful to clarify that there was no significant difference in consumption of sweetened cereal consumption of participants and non-participants.

On page 250, in support of the assertion that the underestimates of total fiber intakes do not account for the disparity between recommendations and intakes, it would be helpful to include the IOM's estimates that total fiber intakes are, on average, 5.1 grams higher than dietary fiber intakes, from IOM, *Dietary Reference Intakes: Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids.*, p. 391.

On page 270, in first sentence in section 3, Table VI.15 should be Table VI.16.

**Mary Story PhD, RD, Professor, Division of Epidemiology and Community Health
School of Public Health, University of Minnesota
Comments on Volumes I and II: Competitive Foods sections**

Overall comments

This is a comprehensive and impressive report. I read the entire report and think Mathematica did a superb and outstanding job. It is well organized and written. The data is well presented.

A few overall comments. Could there be a glossary of key terms such as competitive foods, SFAs, school food environment, pouring rights contract etc. Also it would be useful to have an Executive Summary that highlights the main findings from each section.

My comments are organized below according to the key sections I was asked to review in Volume I and Volume II.

Volume I: School Food Service, School Food Environment and Meals Offered and Served—Competitive Food Component

III CHARACTERISTICS OF THE SCHOOL FOOD ENVIRONMENT

D. POLICIES ON COMPETITIVE FOODS AND BEVERAGES71

At the very end of the paragraph it is mentioned that these policies were collected in the school year 2004-2005. It might be helpful to add one sentence that this was before the school wellness policies were required to go into effect at the first day of the school year in 2006 mandating that every school have a wellness policy. It would help orient the reader that is aware of school policies but not necessarily of the date they went into effect.

1. SFA-Level Policies71

Table III.5. In the text only could it be mentioned the type of schools (elementary, middle, high) that offer foods from national or regional brand-name or chain restaurants. It would be useful to have this breakdown information by type of school for future comparisons. I assume that high schools would have more brand name restaurant foods compared to elementary schools.

Page 74 “SFA directors reported having these contracts in about one-fourth of SFAs”. This seems awkward. Can you just say “SFA directors reported having these contracts in about one-fourth of their schools or districts.”

Page 74. “The majority of SFAs did not place restrictions on access to competitive food venues (Table III.5)” Is this referring to only competitive foods that were operative or

under the control of SFAs or is it referring to their perception of all competitive foods in the schools? It would be helpful to clarify this.

Also on Page 75 it says “More than half the SFAs did not restrict the times when sodas, soft drinks and sweetened fruit beverages were sold to students at school.” Is this referring to only those foods in the cafeteria or the entire school. SFAs do not set the times in the school, the principals do that. If this is the case it could be clarified by stating “ More than half of the SFAs reported that” A minor point what is the difference between sodas and soft drinks. Are not they the same thing.

Could Table III.5 be relabeled “SFA *reported* policies on competitive foods offered in schools”. It sounds like they are reporting on policies not under their control such as the pouring rights. It is noted in the footnote on page 74 that there was a discrepancy between SFA report and principal report for pouring rights and the SFA may not be aware of the school policy. The way this section is written it sounds like the data is only for those foods or policies under the control of the SFA. Also, in the Table under “Access to Competitive Food Venues” could you clarify “Among SFAs with competitive foods....” If this is referring to all competitive foods in the schools and not those directed under their control you could delete “Among SFAs with” if the title of the table included “SFA reported policies...”

2. School-Level Policies75

When looking at Table III.6, I was confused by what “Outside Food Service Area” meant. Was this directly outside the cafeteria? It would be helpful to readers to add a footnote to the table stating that this means anywhere in the school.

On Page 78-79 under ‘Availability of Other Competitive Food Sources’ a la carte is not mentioned. Could you add a sentence saying this will be covered in another section. For Table III.7 on page 80 would it be possible to add A la carte to the table and only give data on whether or not the schools offer a la carte items. It would make the table more complete since a la carte is a major venue for competitive foods. Plus I was confused on Page 85 when A la carte revenues were discussed but no mention had been made of a la carte presence. Adding to the table and text just the number of schools offering a la carte would make this section more complete.

E. STUDENT MOBILITY AND OPEN CAMPUS POLICIES.....79

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No comments.

F. REVENUES FROM COMPETITIVE FOODS.....83

- 1. A La Carte Revenues85
- 2. Vending Machines88
- 3. School Stores92

PAGE 88. VENDING MACHINES. CAN YOU ADD A SENTENCE SAYING HOW THAT THIS DATA WAS COLLECTED FROM THE SCHOOL PRINCIPAL. IT IS A FOOTNOTE IN THE TABLE BUT WOULD BE USEFUL TO ADD IT HERE. COULD THIS ALSO BE ADDED TO THE SCHOOL STORES ON PAGE 92

IV COMPETITIVE FOODS OFFERED IN SCHOOLS95

Page 95. 1st sentence add ‘types’.... This chapter presents information based on the availability of, access to, and types of competitive foods...

I was initially confused as to why this section was not in the earlier section. It would be helpful to say in the previous section that information on the availability, access and types of foods will be forthcoming in the next chapter. Also in this section IV could it be made a little clearer on Page 96 that this is different data being collected since it was observation data and that the school-level data with principal and SFA report was based on 143 schools and this observational data was based on 100schools. It is stated but could be clearer.

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- 1. Types and Combinations of Competitive Food Sources.....98
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No comments/changes

D. FOODS AND BEVERAGES OFFERED A LA CARTE111

Page 113. Table IV.8. Could the type of milk be broken down as in page 107 Table IV.6 under Dairy Foods and Beverages

E. FOODS AND BEVERAGES OFFERED FROM ALTERNATIVE
FOOD SOURCES.....123

No comments/changes

**VOLUME II: STUDENT PARTICIPATION AND DIETARY INTAKES—
COMPETITIVE FOOD COMPONENT**

II PARTICIPATION IN, AND VIEWS OF, THE SCHOOL MEAL
PROGRAMS

D. SATISFACTION WITH THE SCHOOL MEAL PROGRAMS

5. Parents’ Knowledge of, and Views on, Competitive Foods72

Page 72-73. Table II.24. It took a minute to figure out on the Table what is meant under Awareness of vending machines availability and Awareness of a la carte Foods availability (ie, Parent reported machines, machines). There is a footnote on the table but it would be helpful to add a sentence to the text on page 72 if possible.

VI dietary intakes of NSLP participants and nonparticipants

6. Competitive Foods150
 No comments/changes
**G. FOOD SOURCES OF ENERGY AND KEY NUTRIENTS IN LUNCHES
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 No comments/changes
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 Nonparticipants195
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Tables VI. 13 provides the contribution of competitive foods to lunch and 24-hour intakes of NSLP participants and nonparticipants among students who consumed competitive foods. Could you add a table on total energy intake and nutrients by 24-hour intakes of NSLP participants and nonparticipants who consumed competitive foods.

I. COMPARING SNDA-III DATA WITH DATA FROM OTHER STUDIES.....208
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 No comments/changes

Dr. Terry O'Toole, Division of Adolescent and Student Health, Centers for Disease Control and Prevention (CDC)

Comments on Volumes I and II: Competitive Foods sections

General comments:

Regarding data quality, it appears the criterion for utility is satisfied given the usefulness of the information presented for the intended users, that is, members of the public who are stakeholders for the program and policy aspects of the school nutrition environment. The data are generally presented in an objective way and appear to be consistently presented in an accurate, clear, complete and unbiased manner. Further, the data appear to be presented in a reliable and proper context, as the sources of the information are identified in an appropriate and acceptable manner. The analytical techniques used are according to generally accepted practice. Analytic and statistical methods are clearly documented, including the specific data used and statistical procedures employed. Original and supporting data sources used in producing statistical data analyses appear to be clearly identified either in the draft text or on each individual table as appropriate. Original data are clearly documented. Supporting data sources are clearly identified. Sections of the report reviewed generally include specification of variables used, definitions of variables when appropriate, and explanations of data representation as appropriate. Most data sources appear to be sourced and cited as appropriate. In sum, a clear description of the methods, data sources, limitations, outcomes, and related information appear to enable a future data user to understand how this report was designed or produced in order to be feasibly reproduced as desired.

Specific comments offered below are intended to provide further clarification and enhance the readability of the report for the intended users.

Volume I: Specific comments (line numbers are counted by lines containing text on a page)

Note: unable to locate any of the Appendix A Tables A.IV.1-6 in Appendix A

p. 71 line 21: please clarify for reader how “three-quarters” was derived

p. 75 line 4: typo “to be a in a”

p. 75 line 12: helpful to have this comment sourced/cited

p. 75 line 18: “Among the 44 percent of schools” useful to have these data by school level

p. 78 line 6: over have of “those” schools – add “those”

p. 83 last full sentence: “Child nutrition advocates...” this statement reads awkwardly as written; please rewrite for clarity

- p. 85 note #15: would be useful to have data on this exemption for this report; is this available from USDA?
- p. 96 line 3: consider “comprised” in lieu of Checklist, was “set up” to enter
- p. 96 line 10: give citation for SNDA studies
- p. 96 line 15: consider rewriting “by design” for clarity
- p. 97 bullet 4: helpful to have percentages for these findings
- p. 97 bullet 5: would be useful to have a footnote to explain what is meant by use of the term “popular” given the general use connotation of this term (occurs throughout this chapter in several instances)
- p. 98 last sentence: useful to see these data by school level
- p. 100 line 8: can delete sentence – “other groupings or single types...” does not add to meaning
- p. 100 line 17: add “percent” to 22 and 71 percent
- p. 101 last sentence: add “than middle schools” to end of sentence
- p. 103: unable to locate Table A.IV.1 (as well as other Table A.IV 1-6)
- p. 103 line 7-9: are these data provided elsewhere in this report to substantiate this discussion; or, provide source to support
- p. 103 line 13: may be useful to clarify “snack bars” as “snack bars outside of food service”
- p. 106 line 2 (and throughout as applicable in this chapter) would be helpful to reader to have juice labeled as “100% juice” to clearly distinguish from juice drinks
- p. 111 line 5: not convinced that “both types of beverages” is clear to the reader; may be clearer to say “100% juice and water then other types of beverages such as sodas and juice drinks”
- p. 111 line 12: “energy or sports drinks” where are these data represented – unable to locate Tables A.IV.3 and 4
- p. 111 line 14: useful to provide percentage for “about as many schools”
- p. 112 line 15: clarify/quantify “frequently”

- p. 112 line 20: sudden shift to use of “secondary schools” not convinced this assists with clarity; may be better to stay with school levels
- p. 116 lines 5-6: useful for clarity to have percentages
- p. 116 line 15: define “popular” related to note above
- p. 116 last line: remove parentheses for “Vegetables other than...”
- p. 117 line 3: More high schools and middle schools ... than elementary. Or, if not meaningful to compare to elementary (which seems the reason for grouping HS and MS as explained in note 11), then compare HS to MS or just provide HS and MS percentages.
- p. 117 line 4: this explanation of dividing beverages into two groups might be useful in the vending section; what do data look like for HS and MS?
- p. 117 line 8: what is meant by “top”
- p. 117 note 13: are there USDA exemption data available?
- p. 117 line 13: helpful to clarify this sentence given the premise of this paragraph
- p. 119 line 1-2: sentence may be redundant given the first sentence of this paragraph
- p. 119 last line: “but just” could use “and”
- p. 122 line 2: add While “offering” candy and frozen deserts “at breakfast was”
- p. 122; unable to locate Table A.IV.5
- p. 123 line 8: provide percentage for “few schools”
- p. 125 line 1: provide percentage for “More schools”
- p. 125: unable to locate Table A.IV.6
- p. 126: would be helpful to have percentages

Volume II: Specific comments

- p. 74 line 8: still, a majority of ES and MS think it’s a bad idea
- p.150 under CF para, 3rd bullet: I may have missed this, why not trans fats given their presence in the majority of low nutrient, energy dense foods reported given DGA

guidance to keep trans fat as low as possible – still, while intake of both sat fat and trans fat should be decreased, only percentage is given for sat fat by DGA.

p.189 line 13 & 15: should this be 4 to 6 %?

p.190 line 1: recall “was” completed

p.191: I may have missed the rationale; was total fat analyzed?

p.197 line 7: pints should be points

p.198 line 12: to my earlier question on trans fat: given that limited consumption of foods made with processed sources of trans fats provides an effective means of reducing intake of trans fats and that this report indicates processed foods (e.g. candy, cookies, etc) provide most commonly consumed... suggest for future analyses ☺

Along these lines – again, I may have missed this, why is total fat not analyzed under item G?

p. 200 line 8-11: need to clarify for reader. Sodas and fruit drinks most common for whom? Also, not clear on meaningfulness of bottled water statement among high school students given it's half as much for participants.

p. 200 line 22: “more than 50 %” use 183 of 350 to clarify percentage for the reader

p. 200 line 23: “In contrast...” would be helpful to clarify as to why this is a meaningful contrast

p.203 line 17: Might be useful to note that nonparticipant caloric consumption of low nutrient is significantly higher than participant