Chapter 8

Entering Menu Plans

CHAPTER OBJECTIVES

After reading this chapter, you will understand how to:

- **Identify menu (site) names and associated nutrient standards for each grade or age grouping used.**
- **Determine the number of projected servings by weighted or simple averages.**
- **Enter the portion size of each menu item.**
- **Handle field trips in nutrient analysis.**

The various nutrient analysis software programs may have a different order of steps necessary to establish menu plans for analysis, but the following steps should be common to all the software.

KEY

Menu Name and Site are terms used by the various software programs; the terms may refer to an actual meal site or it may be used to refer to an age/grade group for whom the meal is planned. An example would be a menu for one K-6 school or a centralized menu for a group of K-6 schools.

STEP 1
Identify Menu (Site) Name and Associated Grade or Age Nutrient Standards

Menu (Site) Names

In nutrient analysis, the nutrient analysis software programs require a separate data entry menu name or site name for each *age/grade group* used by the SFA. Menus are planned to meet the nutrient levels of each age/grade group by adjusting the portion size of each menu item. It may not be necessary to re-enter menus for each age/grade group. All software programs allow the user to *copy* a menu and adjust portions or change menu items as needed.

Some nutrient analysis software programs allow menus to be created and then allow the menu planner to assign them to schools (sites) and age or grade groups. Other software programs require establishing the menu (site) name and age or grade group prior to entering menu data. Follow the procedures of your software program.

Assigning Grade or Age Groups for Nutrient Standards

Assign the age/grade groups to each specific menu name or site. Use ages or grades as appropriate (defined by your menu planning approach). These age/grade groups have nutrient standards preset in the software. Examples are:

- Grades K-6
- Grades 7-12
- Grades K-3
- Grades 4-12
- Ages 3-6
- Ages 7-10
- Ages 11-13
- Ages 14 and older

The software has been programmed to adjust the nutrient standards to the grade or age grouping entered.

Creating Customized Age/Grade Groups (for NSMP/ANSMP Only)

You can customize age groups that are not established in the software. The software will then create customized age-based nutrient standards for the specific ages or grades of students in a school or district.

Differences in the Way SFAs and State agencies Set Up Menu Plans

SFAs and State agencies conducting nutrient analysis will generally differ in their approach to setting up menu plans for nutrient analysis data entry. The SFA that conducts nutrient analysis for centralized menus for all schools within the district will establish unique menu names or site names for each age/grade grouping used in the district. The State agency conducting nutrient analysis of a school using a food-based menu planning approach, will establish menu names only for the grade groups for the meal pattern used by the school being reviewed.

SFA Level

The following example demonstrates how an SFA may set up its menus in the nutrient analysis software without having to conduct a nutrient analysis for each school. This example illustrates menus set up by the various age/grade groupings used for the menu planning option.

For Example: In the Springfield City School District, the NSMP approach is used for menu planning, and **three grade groupings** are used throughout the district to plan lunch menus that meet the nutrient standards – preschool, grades K-6 and grades 7-12. Many more choices within the lunch

menu are provided to the older students in grades 7-12 in an effort to increase participation.

Because Springfield City School District uses three grade groupings for their central menus, they must create **three different sets of menus** and, therefore, **three different menu names or sites for data entry.** Springfield School District would set up menu names or sites accordingly, so menus could be centrally planned and analyzed for each of these three grade groupings.

- Springfield School District – Preschool Lunch
- Springfield School District – Grades K-6 Lunch
- Springfield School District – Grades 7-12 Lunch

KEY

When nutrient analyses of menus are conducted—regardless of menu planning approach—a separate nutrient analysis must be completed for each age or grade group used by the SFA/school.

This school district would have *three* lunch menus to analyze. The first two menus might be duplicates of each other except for portion sizes; however, due to the fact that more choices are offered in Grades 7-12, a new 7-12 grade menu with *additional menu choices* and larger portion sizes will need to be entered.

Because the school district also plans central breakfast menus, they would also set up unique breakfast menu names. If the school serves one breakfast menu to all grades, then one breakfast menu name will be established – in this case Springfield District Breakfast Menus – and the one breakfast menu cycle will be planned and analyzed. If the school uses more than one breakfast menu or age/grade grouping, then multiple names or sites will need to be established such as those previously described for the lunch menus.

State Agency Level

During an SMI review of a school using a food-based menu planning approach, the State agency will conduct a nutrient analysis of the school's menus. A separate nutrient analysis must be conducted on menus planned for each meal pattern used in the school.

The school selected for review is representative of how the SFA is implementing the menu-planning approach. Provided that an appropriate meal pattern is used for menu planning in the school, meals served using that meal pattern will be reviewed against the nutrient standards for that meal pattern, regardless of the grade levels in the school. However, the State agency must keep in mind the available modifications to the Traditional Food Based Menu Planning approach as discussed in Chapter 2.

CAUTION: Meals must be reviewed against the nutrient standard for the specified meal pattern, regardless of the grade levels in the school being reviewed.

For example, the State agency has selected a junior high school (Grades 7-9) for review. The school district uses the Traditional meal pattern for Group IV (Grades 4-12) for planning a centralized menu for grades 4-12. Therefore, the menus served in the junior high school would be reviewed against the nutrient standard for Grades 4-12.

KEY: If the SFA is using food-based menu planning, the grade groupings must match the meal pattern(s) or approved modification and cannot be adjusted.

KEY

In performing nutrient analysis for schools using food-based menu planning, State agencies will review schools against the nutrient standards for the meal pattern(s) being implemented by the SFA, including the approved modifications to Traditional Food-Based Menu Planning. State agencies may not develop or customize nutrient standards for the particular grades or ages of the school selected for SMI Review.

STEP 2:
Identify Menu or Meal Types

The type of meal to be planned must be entered because there are specific program requirements for each meal:

- Lunch
- Breakfast

CAUTION: Regulations permit only those SFAs using nutrient-based menu planning approaches and weighted nutrient analysis to combine the breakfast and lunch analyses. Follow the software program instructions on how to combine the nutrient analysis of breakfast and lunch.

NOTE

State agencies may not combine breakfast and lunch analyses when evaluating food-based menu planning approaches. When separate analyses are performed, it is easier to identify problems and better focus technical assistance.

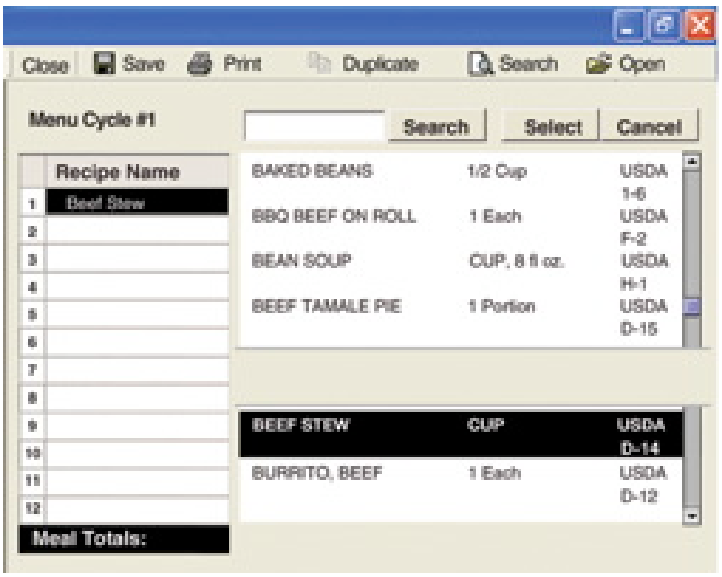
STEP 3

Enter Individual Menus

Entering Individual Menus

The initial process in developing menus is to identify the menu items or recipes to be included for each menu. The software program allows the user to search for the recipes or menu items in the database—either by identification code or by name of food or recipe. The identification code is the number assigned to each food or recipe in the database. USDA-approved software systems will also allow the menu planner to enter the name of the food or recipe, and the software will **search** for the foods or recipe.

In the example below, the menu planner enters "Beef Stew" as the menu item and searches the database for the Beef Stew recipe.



Cycle Menus (SFA Centralized Menu Analysis Perspective)

A cycle menu is a series of individual menus that are repeated on a periodic basis; they can save the user time in menu planning, data entry, and analysis. Most software programs allow the user to develop and enter cycle menus by means of a series of pre-numbered menus, then allow the user to select and copy these menus to either calendars or cycles.

SFAs may vary in the way they implement cycle menus. Some SFAs may repeat the same set of menus every four weeks or so, but have different sets of cycle menus for fall, winter, and spring. Some SFAs, especially those that do a lot of onsite preparation, may establish a basic number of menus and then vary or switch the scheduling of the individual menus—depending on the day of the week and the amount of pre-preparation required.

KEY

State agencies setting up menus for nutrient analysis for an SMI review will not be concerned with cycle menus but will only be entering the menus for the designated school for the review week.

STEP 4
Assign Dates to Menus and Determine Date Range for Nutrient Analysis

Software programs allow the user to select and copy menus to either calendars or cycles. The user determines the date range for analysis. A week for nutrient analysis purposes is 3-7 consecutive school days. If there are fewer than three consecutive days in a week, the days in that week are combined with the subsequent or previous week for analysis

STEP 5
Determine Number of Servings and Serving Sizes (Portions) of Menu Items

Only menu/food items offered as part of reimbursable meals are analyzed. If you are conducting a weighted analysis, you must project the number of servings for each menu item based on weighted averages, i.e., give more weight to menu items that students select more often.

SFA Perspective: The SFA that is planning and analyzing centralized menus using weighted nutrient analyses, will need to aggregate or consolidate the number of projected servings for each menu/food item planned for reimbursable meals for each menu for each age/grade grouping used in the district to ensure the analysis is weighted correctly.

Remember, weighted averaging allows for greater contribution from menu items selected more often. If menus have previously been served to students, the number of menus items served is obtained from past food production records.

For a school district just changing over to NSMP with a set of new menus, there may be no food production history from the schools to indicate the more popular choices or items more frequently declined under Offer versus Serve.

The best strategy for this school district is to estimate or forecast the number of servings of each item anticipated being selected for reimbursable meals for all schools. Once the school district/school has experience in serving the menus across the district – usually at the end of the first menu cycle – the SFA will have data from the schools' production records to complete the second step—using production data to adjust the weighted analysis; then the school *must* re-analyze meals based on the actual school district numbers for weighting.

Since only menu/food items offered as part of the reimbursable meal are analyzed, this will require the SFA to combine or aggregate data from all schools. For an accurate weighted analysis where central menus are analyzed for all schools, the following protocols must be followed:

1. The adjusted production data for each menu/food item must be aggregated by each age/grade groupings used by the school district. For example, the ABC School District would aggregate its data by preschool, grades K-6, and grades 7-12.

2. The term "adjusted production data" for each menu/food item means the items served only in reimbursable meals – this will require subtracting the food items sold a la carte, items sold to adults, and leftover items.

State Agency Perspective: If the State agency conducts the nutrient analysis for an SMI review for an SFA using food-based menu planning, it will select one school, request the food production records from the school for the week selected for review, and use the actual number of servings used in reimbursable meals for the weighted analysis. Aggregating data from all schools is not feasible and is not required. However, the State should recognize that using weighted data from only one school might not be reflective of the school district as a whole

KEY

During an SMI review, if the SFA condcted a centralized nutrient analysis, the State agency validates that the district correctly aggregated data for the weighted analysis.

A More Detailed Explanation of Weighted Averaging

In the following example of weighted averaging, there are three entrée choices in the meal. An average of 4,500 students normally receive a reimbursable meal for this age/grade grouping in the school district. A review of past production records of this meal indicates that pizza is more frequently selected and should be weighted accordingly.

Sample Weighted Averaging Of Three Entrée Choices

Weighted Nutrient Analysis of Entrees

Entree Items	Actual Servings Planned	Data Entry Servings Planned	Contribution to Nutrient Analysis
Pizza	3,000	3,000	66.7%
Baked Chicken	750	750	16.7%
Chef's salad	750	750	16.7%
Total	**4,500**	**4,500**	**100%**

SFAs, which conduct nutrient analysis of *centralized* menus will need to *consolidate* or *aggregate* production data records for all of menu items served in reimbursable meals in all of their schools in order to weight the analysis.

KEY
When the menu planner uses weighted averaging for nutrient analysis, all menu items must be weighted, including milk, condiments, salad dressings, etc.

In weighted averaging, the total number of planned reimbursable meals with projected number of servings for each menu item, excluding food items sold as adult meals and a la carte, is required for each menu.

To conduct weighted nutrient analysis, the menu planner must enter the following items:

- Total number of planned reimbursable meals for each day of the weekly menu by age/grade grouping (Example: PK, K-6, 7-12);
- Portion size(s) for each menu item and condiment for each age/grade grouping; and
- Projected number of servings for each portion size of each menu item that will be part of the day's reimbursable meal, including milk and condiments and excluding a la carte and adult servings.

What is a "Simple Average"?

For nutrient analysis, simple averaging means giving equal weight to every item offered to the student within each menu choice. It is an alternate method for projecting the numbers of each menu or food item, in contrast to weighted averages, which gives more weight to nutrients that are more frequently selected by students

SFA/School Level: Check with your State agency to determine if simple averaging is an option for conducting nutrient analysis.

State agency Level: When the State agency conducts an

SMI review on a district implementing simple averaging, the State must ensure that the district correctly implemented simple averaging.

How to Project the Number of Servings Using Simple Averages

Simple Averaging —No Choices

The complexity of simple averaging depends on the number of choices provided within the menu. If an SFA/school serves menus with no choices, simple averaging can be accomplished by entering "1" as the number of meals and entering each menu item as 1 serving. However, there are usually choices–if nothing more than various types of milk.

Simple Averaging—Choices

In cases where students have the option of selecting more than one item from a group of choices, the menu planner must **choose a number** for the projected number of planned meals that is evenly divisible by the number of menu item selections available within all of the menu choice groupings. Three hundred (300) is a number evenly divisible by any number up to seven; therefore, 300 will be used for the simple averaging process below.

In this example, a school of 375 participating students, with the same 3 entrée choices, uses simple averaging for nutrient analysis.

Nutritional Analysis Based on Simple Averages			
Entree Items	Actual Servings Planned	Data Entry Servings Planned	Contribution to Nutrient Analysis
Pizza	250	100	33.3%
Baked chicken	75	100	33.3%
Chef's salad	50	100	33.3%
Total	**375**	**300**	**100.0%**

An SFA/school uses this menu structure and conducts nutrient analysis using simple averaging:

4 Entrée choices	Student may select 1
6 Vegetable/Fruit Side choices	Student may select 2
4 Breads/Desserts Side choices	Student may select 2

The menu planner must choose a number that can be evenly divided by the number of choices within all of the menu choice groupings–in this case 4, and 6. Three hundred (300) is a number that is easily divisible by any number less than seven.

CAUTION
In simple averaging, the planned number of meals must be consistent from day to day to ensure equal weight for the week's average.

If a student has the option to select more than one item from a group of menu choices, follow these steps to calculate the planned number of meals that would accomplish simple averaging related to the number of choices.

- Use a number for planned or projected meals that is easily divisible by all the number of menu choices (300).
- Divide this number by the number of selections within the menu choice. Example: If four fruits and vegetables are offered, divide 300 by 4 = 75.
- Multiply this number (75) by the number of menu items the student may select. Example: Student may select 2 fruits and vegetables, multiple 75 by 2 = 150.

KEY
If the menu planner uses simple averaging for nutrient analysis, he/she must also use simple averaging for milk, condiments, salad dressings, etc.

Refer to Appendix J for an example of determining projected servings for simple averaging.

Simple averaging cannot be used if students are allowed a range of selections, such as "Select 2 or more", because without a specific number of number of choices, the menu planner cannot equally weight the items within the menu choice group.

Portion or Serving Sizes

The portion or serving size must be specified for every food item and menu item. For example:

- 1% low-fat milk, 8 fl. oz.
- Bowl pack of corn flakes cereal, 1 oz.

Menus for Field Trips (NSMP/ANSMP)

Packed lunches for field trips present a unique problem for averaging into the week's regularly scheduled menu analysis as if they were meals served on a school campus. First, field trips are special events with only a relatively small number of students participating on any given day, and the nutrients for those meals might get "lost" in weighted averaging. Another problem is that many schools are not notified about field trips more than 2 weeks in advance of the trip.

To help ensure that field trip meals are as nutritious as the other meals offered by the foodservice, the meal planner can create a separate menu(s) for field trips, analyze and compare to the appropriate age/grade group nutrient standard, and then adjust to provide a packed lunch that comes as close to the nutrient standard as possible. Then the school foodservice could be assured that field trip meals would not get lost in the larger numbers. The meals would be nutritious, but would have little, if any, impact on the overall nutrient analysis.

STEP 6
Print Applicable Reports for Review

- Day by Day Analysis
- Weekly Analysis

The nutrient analysis software programs allow the user to print various reports as needed to check data entry. These include a menu spreadsheet indicating weekly analysis. These reports can be reviewed to identify missing data and/or errors in data entry.

Common Errors in Data Entry of Menus

- Incorrect food item/recipe selected from database
- Portion or serving sizes wrong
- Numbers for aggregation of planned production data for weighted averaging are incorrect
- Simple averaging not done correctly
- Condiments are not entered as menu items, e.g., mayonnaise, mustard and/or catsup for hamburgers
- Menu item left off of the nutrient analysis, e.g., bun for hamburger

Reminders:

- Carefully select the correct food item/recipe from the database. Make sure that all recipes reflect the currently purchased food items.
- Choose the correct portion size.
- Make sure the numbers for planned production for weighted averaging have been done correctly.
- Review data entry to check for all menu items and condiments before saving menu.