Using a Nutrient-Based Menu Planning Approach

As discussed in Chapter 1, there are two nutrient-based menu planning approaches—the Nutrient Standard Menu Planning (NSMP) approach and the Assisted Nutrient Standard Menu Planning (ANSMP) approach. Rather than planning menus based on specific food groups and quantities, menu planning is done through nutrient analysis for these two menu planning approaches. Reimbursable meals are defined as those meeting the nutrient standards for the appropriate age/grade groups when averaged over a school week.

Importance of the Meal Structure

When using the NSMP or the ANSMP approaches, the menu planner defines the meal structure. Unlike food-based menu planning, there is no required meal pattern to follow—a lunch must contain a minimum of an entrée, a side dish, and fluid milk—breakfast must contain a minimum of two side dishes and fluid milk. The menu planner for NSMP/ANSMP has a great responsibility because these meals must be planned to meet the nutrient standards of the appropriate age/grade groups, offer a variety of foods, be reimbursable, and encourage children to make healthy choices.

Refer to Appendix F for the NSMP/ANSMP menu-planning requirements.

Basic requirements for NSMP and ANSMP approaches are provided in Chapter 3 of *A Menu Planner for Healthy School Meals*. Also, refer to USDA's *Offer Versus Serve* resource guide on how to implement Offer Versus Serve in NSMP and ANSMP.

Nutrient Analysis

Under NSMP/ANSMP, the menu planner must use USDA-approved computer software to analyze and review the draft menus and make the necessary modifications to ensure that meals meet the nutrition standards and are therefore reimbursable.

WARNING

Some State agencies may require pre-approval of menus and nutrient analyses prior to the SFA/Schools using the NSMP approach. Check with your State agency for guidance.

NUTRIENT-BASED Menu Planning Approaches

Consult the *Nutrient Analysis Protocols for the School Nutrition Program: How to Analyze Menus for USDA's School Meal Programs* for instructions on conducting nutrient analyses of your menus. Following the nutrient analysis protocols is required for this menu-planning approach.

KEY

All menu items in a reimbursable meal, including condiments, must be included in the nutrient analysis. Foods of Minimum Nutritional Value (FMNV) such as chewing gum, soda water, water ices, and certain candies, are only included if they are used as a part of a menu item, such as a garnish, for example, jelly beans on a cupcake.

On the following pages, you are provided with the advantages and disadvantages of using one of the nutrient-based menu planning approaches. Reviewing this chart will assist you in determining the best menu-planning approach for your SFA/schools.

Advantages and Disadvantages to Implementing NSMP/ANSMP

NUTRIENT-BASED Menu Planning Approaches

ADVANTAGES

◆ **Flexibility in menu planning.** Menu items for NSMP/ANSMP do not require any specific foods or specific quantities, except fluid milk, which must be offered at lunch and breakfast. All foods count toward meeting the nutrition requirements, except Foods of Minimal Nutritional Value (FMNV) that are not a part of a menu item.

◆ **Enhanced ability to meet specific student preferences.** SFAs/schools may be better able to meet specific student food preferences such as vegetarian diets or various ethnic entrees.

◆ **Immediate nutrition information feedback.** The nutrient analysis provides immediate feedback to the menu planner on how well a SFA/school is meeting nutrient standards.

◆ **Ability to inform students and parents of the nutritional content of school menus.** Providing nutrition information on all menu items can assist students in learning to make healthy food selections.

DISADVANTAGES

◆ **Expense.** Appropriate computer hardware and USDA-approved software must be initially purchased, supported and maintained.

◆ **Expertise.** The menu planner must possess sufficient nutrition and food preparation knowledge to accurately conduct and evaluate the nutrient analyses, using the *Nutrient Analysis Protocols* manual, to ensure that food items, recipes, and menu data entries have been correctly made.

◆ **Increased Time**
  — To input nutrient information of commercially prepared foods that are not in the nutrient analysis database.
  — To input local recipes, including any modifications made to USDA recipes.
  — To input a draft menu for each grade/age group used.
  — To aggregate data for weighting number of menu items, if the SFA analyzes centralized menus.
  — To adjust or modify menus to meet the nutrient standards.
  — For re-analysis of menu adjustments for changes in menus, food products, and/or student food selection changes.
  — For documenting menu substitutions.

◆ **Loss of Flexibility for Substitutions.** Once menus are analyzed and adapted to meet the nutrient targets, menu items cannot be substituted unless in an emergency during the 2-week window, without re-analysis.

◆ **Increased Need for Training**
  — Students must be trained on how to recognize a reimbursable meal during meal selection. Cashiers must recognize reimbursable meals at the point of service.
  — Cashiers may require daily training on the day's menu especially if the number of menu items varies daily.
  — Foodservice staff must be trained to follow the menus, use standardized recipes, use consistent food preparation and serving techniques—including accurate and consistent serving sizes for nutrient analyses to be accurate.

◆ **Failure to target other important foods and nutrients.** If the menu planner relies on fortified foods to meet the targeted nutrients, other important foods, nutrients, and phytochemicals may be missing. Offering a variety of fruits and vegetables and including whole grains in menus encourages students to consume many different fruits and vegetables, as required by the *Dietary Guidelines for Americans*.

NUTRIENT-BASED Menu Planning Approaches

Some State agencies may require pre-approval of menus and nutrient analysis prior to the SFA/Schools using the NSMP approach. Check with your State agency for guidance.

Additional ANSMP Concerns

In addition to the previously discussed concerns for SFAs/schools using NSMP, those choosing ANSMP have these other areas to consider.

State Agency Pre-Approval
Before implementation may take place, the State agency must approve the SFA's initial cycle menus, recipes, and other pertinent information such as food specifications. This means SFAs must plan ahead and allow sufficient time for the State agency to review materials and for changes to be made prior to implementation.

Adherence to Cycle Menus
Menu planners must strictly adhere to the analyzed cycle menus. Except for necessary substitutions within the 2-week window, no menu changes can be made without a re-analysis by the contractor prior to the day of service.

Expertise in Contracting
If the contracted services exceed the small purchase threshold, according to your State and local policies, SFAs must be able to develop a Request For Proposal (RFP) or an Invitation To Bid (ITB), evaluate bids, and manage the contract.

The RFP/ITB should contain provisions for the contractor to:
◆ Re-analyze the menus based on changes in participation or student selections for weighted analysis.
◆ Plan, analyze, and incorporate menus falling outside the scope of the cycle menu, such as holidays, theme meals, and field trip lunches.
◆ Ensure inclusion of USDA commodities in menu planning.
◆ Ensure that the menu adjustments are accomplished within a specified time frame and at a reasonable cost.

Meal Requirements for NSMP/ANSMP

Lunches
◆ The number of menu items required each day depends on the number needed to meet the appropriate nutrient standards when averaged over the school week.

NUTRIENT-BASED Menu Planning Approaches

◆ The minimum menu items must include:
  • An entrée,
  • At least one other menu item (side dish), and
  • Fluid milk served as a beverage.

Breakfasts

◆ The number of menu items required each day depends on the number of items needed to meet the appropriate nutrient standards when averaged over the school week.

◆ Minimum menu items must include:
  • Fluid milk served as a beverage and
  • At least two (2) other menu items.

KEY *To meet the required calorie and nutrient levels, the planned meals will frequently have to contain more than the minimum three menu items.*

## Making NSMP/ANSMP Work for Your SFA or School

Important points to help you successfully manage NSMP/ANSMP are:

◆ Establish your own menu structures based on what students will accept while meeting the nutrition standards. Establish a consistent meal structure to facilitate OVS implementation.

◆ Re-analyze when changes occur in menus, food products, and student participation.

◆ Communicate to the school foodservice staff, school administration, students, parents, and the community on what you are doing and why.

◆ Make the nutrient analysis of menus available to students, parents, and school administrators.

Planning Menus To Meet the Nutrition Standards

Here are some principles that will help you meet the nutrition standards for your menus:

◆ Select menu items/quantities that ensure the planned menus meet the required nutrition standards for each age/grade group planned.

◆ Select menu items that appropriately convey healthy food messages, so students learn what constitutes nutritious meals.

◆ Structure menus so that children select a variety of food items and make healthy choices.

◆ Evaluate students' acceptance of commercially prepared food items and/or school prepared food items using standardized recipes to ensure students find them attractive and tasty.

NUTRIENT-BASED Menu Planning Approaches
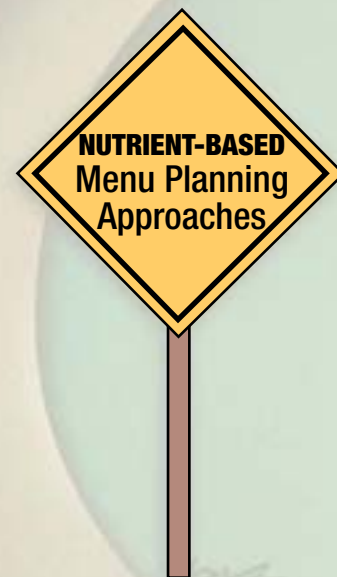
◆ Include a variety of whole foods and limit the number of fortified, highly processed foods.
◆ Develop specifications for purchasing that describe the desired food product.
◆ Compare nutrient content of food products.

KEY

Since there are no meal patterns or food component requirements, you must carefully plan menus to meet the nutrient standards; use the five major food groups in the "MyPyramid Food Guidance System" as a guide for structuring your menus.

KEY

Calories should be consistent on a daily basis as well as meet the weekly target because:
- *Too many calories (too much food) on one day may result in excessive plate waste or promote over-consumption—a contributor to obesity, and*
- *Too few calories (too little food) may leave children hungry or encourage them to purchase less nutritious snacks to supplement their meal*

Selecting the Right Age/Grade Groups for Menu Planning

Menu planners are encouraged to use a sufficient number of age/grade groups when planning menus to meet the nutritional needs of students of all ages. This means using more age/grade groups (smaller ranges) than the minimum required. However, this may require that the SFA/school conduct additional menu analysis, evaluation, and modification.

SFAs/schools on one of the nutrient-based menu planning approaches have several options for the age/grade groupings. They can use established grade groups, established age groups, or customized age groups.

Lunch
NSMP and ANSMP - Established Grade Groups
◆ Preschool
◆ Grades K-6
◆ Grades 7-12
◆ Optional Grades K-3

NSMP and ANSMP - Established Age Groups
◆ Ages 3-6
◆ Ages 7-10
◆ Ages 11-13
◆ Ages 14 and above

NUTRIENT-BASED Menu Planning Approaches

Breakfast
NSMP and ANSMP - Established Grade Groups
◆ Preschool
◆ Grades K-12
◆ Optional Grades 7-12

NSMP and ANSMP - Established Age Groups
◆ Ages 3-6
◆ Age 7-10
◆ Ages 11-13
◆ Ages 14 and above

NSMP and ANSMP:
Lunch and Breakfast Customized Age Groups (Optional)
The option to customize age groups allows the menu planner to develop menus that are more accurately targeted to the nutritional needs of specific groups of children. At least two age groups must be used.

Key Points To Remember When Planning Menus

Breakfast
Menu planners are encouraged to use smaller age/grade groupings to better meet the nutritional needs of students.
◆ **Grade groups:**
  • At a minimum, the SFA may use the K-12 grade group or
  • Use other grade options, PK, and 7-12.
◆ **Age groups:**
  • The SFA may use the established age groups 3-6, 7-10, 11-13, and 14 and above or
  • The SFA has the option to customize the age groups to reflect the age/grade groupings within the SFA.

Lunch
Menu planners are encouraged to use smaller age/grade groupings to better meet the nutritional needs of students:
◆ **Grade groups**
  • At a minimum, use the established grade groups, i.e., K-6, 7-12 or
  • Use other grade options, PK, and K-3
◆ **Age groups**
  • The SFA may use the established age groups 3-6, 7-10, 11-13, and 14 and above or
  • The SFA has the option to customize the age/grade groupings to reflect the grades within the SFA. Two age/grade groups must be used.

NUTRIENT-BASED Menu Planning Approaches

NUTRIENT-BASED Menu Planning Approaches

KEY

Menu planners are encouraged to maximize age/grade groupings for meeting age-specific nutritional levels.

For example:
Central City Public Schools customizes five age groups to ensure that students in all grades receive the nutrients they need for lunch:

◆ Ages 3-5 (Preschool);
◆ Ages 6-8 (Lower elementary, grades 1-3);
◆ Ages 9-11 (Upper elementary, grades 4-6);
◆ Ages 12-14 (Junior high, grades 7-9); and
◆ Ages 15-17 (High school, grades 10-12).

These five age groups are set up in the computer with identifiable names to the SFA (PK, Lower Elementary, etc.) and appropriate nutrient standards calculated for each age group. The SFA, which uses central menus for all five age groups, varies the quantities and/or menu items to meet the nutrient standards for each of these five age groups. The SFA has five central menus to analyze because of variations in portion sizes, even though the menu choices may be the same.

Allowable Modification of Grade or Age Groups for Majority of Students for NSMP/ANSMP

If your school's grade structure does not match the established age or grade groups, you may consider using the following modification:

◆ If one age or grade is outside the established range of K-6 or 7-12, you may use the age or grade group into which most of the children fit (majority of children).
◆ If more than one age or grade is outside the established range of the grade grouping, a SFA must use two menus and two nutrient standards.

Examples

Grade groupings for Lunch:
May use one grade group to plan meals for:

◆ Grades K–4* May use K–3 (Optional Group)
◆ Grades 6–9** May use 7–12
◆ At a minimum, use two grade groups to plan meals for:
  • Grades K–8 Use K–6 and 7–12
  • Grades 5–8 Use K–6 and 7–12

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* A majority of children are in Grades K-3. Grade 4 is one grade outside the Established Grade Group K-3.

** A majority of children are in Grades 7-9. Grade 6 is one grade outside the Established Grade Group 7–12.

Regulations permit SFAs using NSMP/ANSMP to follow the nutrient and calorie levels for the majority of the children in the school if only one grade or age group is outside the established levels. SFAs are cautioned to consider this option carefully when the age/grade that is outside the majority would be a higher age or grade, because the nutrient and calorie needs of the older children may not be met.

KEY *The broader the range of age/grade groups, the more likely younger children will receive more calories than needed and older children will receive insufficient calories and nutrients.*

Meal Service and Offer Versus Serve (OVS)

Meal Requirements for NSMP/ANSMP
◆ Daily lunches and breakfast menus must offer a minimum of three menu items plus any additional menu items needed to meet the appropriate nutrient standards when averaged over the school week.
◆ The planned number of menu items in the planned portion sizes becomes the basis for reimbursable meals.

OVS Requirements for NSMP/ANSMP
◆ Schools must offer at least three menu items for lunches. Senior high school students (as defined by the State educational agency) must select at least two menu items and are allowed to decline a maximum of two menu items for a three plus menu item menu.
◆ Under OVS, a student shall select, at a minimum, an entrée and one other menu item. If more than three menu items are offered, the student may decline up to two menu items; however the entrée cannot be declined.

An OVS resource for NSMP/ANSMP is USDA's *Offer Versus Serve* resource guide listed in the resource section of this manual.

Establishing a Consistent Meal Structure for OVS
SFAs/schools that use NSMP and ANSMP are encouraged to plan menus for lunch and breakfast that have similar meal structures on a daily basis, always remembering that the menu structure should promote the planning of meals that meet the nutrient standards. A consistent meal structure helps both students and cashiers easily identify a reimbursable meal.

NUTRIENT-BASED Menu Planning Approaches

Examples of consistent meal structures are:

Lunch
◆ Use a lunch menu structure similar to a food-based meal pattern with an entree, three sides, and milk, for a total of five menu items.
◆ Or use a simpler lunch menu structure consisting of an entree, two sides, and milk, for a total of four menu items.

Breakfast:
◆ Use a menu structure similar to a food-based breakfast meal pattern, and plan for milk and two to three other food items.

Remember that fewer menu items in the meal structure means that those menu items must generally contain more calories and nutrients in order for the menu to meet the nutrient standards when averaged over the school week. The SFA/school should carefully consider various meal structures to determine which meal structure will work best to plan menus that are appealing to students, meet the nutrient standards, are easily identifiable at the Point of Service, and stay within the budget.

NUTRIENT-BASED Menu Planning Approaches

KEY *Recognize that OVS meals contain many variations, and train cashiers to identify reimbursable meals at the point of service.*

OVS for Lunch
OVS is required for high schools and is optional for lower grades. The number of items students may decline depends on the number of menu items they are able to select. It does not matter how many entrées, side dishes, or varieties of milk are offered – the number of menu items the student may select determines OVS. Students must always select the entrée.

Example 1:
◆ 1 Entrée
◆ 1 Side dish
◆ 1 Milk

Students are able to select three menu items, although several entrées and side dish selections may be offered. This is a three-item menu. Students must take two menu items one must be the entrée. Students can decline one item—either the side dish or milk.

Example 2:
◆ 1 Entrée
◆ 3 Side dishes
◆ 1 Milk

Students are able to select five menu items. This now becomes a five-item menu. Students must take three menu items, and one must be the entrée. Students can decline two items from the side dishes or the milk.

Develop a consistent meal structure on a daily basis. Planning menus with the same number of menu items the student may select on a daily basis, helps cashiers recognize a reimbursable meal and students to make the correct number of selections for OVS.

OVS for Breakfast
SFAs/schools may, but are not required to, implement OVS in some or all grade levels for breakfast. Selection requirements are:
◆ Must offer the planned menu, which must contain a minimum of three menu items.
◆ Regardless of the number of menu items offered for breakfast, students can decline only one item.

To ensure only reimbursable meals are claimed, provide continuous training to cashiers on recognizing a reimbursable meal, and provide detailed signs in the cafeteria and, on the serving line for students, describing what constitutes a reimbursable meal.

Planned Portion and Combination of Menu Items in OVS
The full planned portion of a menu item must be selected for the menu item to count for OVS. Students must take the full planned combination portions of all foods in the entrée (except condiments) and the appropriate number of other menu items (except condiments) for the meal to be reimbursable.

For example:
An SFA/school has planned an entrée of sliced roast turkey and cornbread dressing for lunch. Gravy is offered as a condiment and therefore may be rejected. The entrée will count toward OVS if the student takes the full planned portions of both the turkey and cornbread dressing. It will not count if the student selects only turkey because the entrée is defined as turkey and cornbread dressing.

Two Servings of the Same Side Dish Cannot Count
Toward Meeting the OVS Requirements
For example, a student can choose two from the following sides for lunch: mashed potatoes and gravy, corn on the cob, braised fresh spinach, steamed broccoli spears, garden salad and dressing.

The student must choose two different sides and cannot choose, for example, two servings of mashed potatoes and gravy.

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Variations in Lunch Structure for Nutrient-Based Menu Planning Approaches

The following chart demonstrates various ways menus may be structured and how the number of menu items offered affects what is required to implement OVS correctly.

	3 MENU-ITEM MEAL	4 MENU-ITEM MEAL	5 MENU-ITEM MEAL
Entrée:	**Choose 1:** Baked Fish Nuggets with Macaroni & Cheese and Garlic Bread Sausage Pizza with Broccoli Spears Vegetarian Chili with Pinto Beans & Bread Sticks	**Choose 1:** Baked Fish Nuggets with Garlic Bread Sausage Pizza Vegetarian Chili with Bread Sticks	**Choose 1:** Baked Fish Nuggets Sausage Pizza Vegetarian Chili
Side dishes	**Group 1: Choose 1** Orange Slices & Brownie Garden Salad with Dressing & Grapes Coleslaw & Raisin Cup	**Group 1: Choose 1** Broccoli Spears Cole Slaw Pinto Beans Garden Salad with Dressing Grapes Orange Slices **Group 2: Choose 1** Macaroni & Cheese Banana Half Raisin Cup Brownie	**Group 1: Choose 2** Broccoli Spears Cole Slaw Pinto Beans Garden Salad with Dressing Grapes Orange Slices **Group 2: Choose 1** Garlic Bread Bread Stick Macaroni & Cheese Brownie Banana Half Raisin Cup
Milk	**Choose 1:** Fat-free Milk Low-fat Milk	**Choose 1:** Fat-free Milk Low-fat Milk	**Choose 1:** Fat-free Milk Low-fat Milk
Number of Menu Items Required for OVS:	This is a 3 menu-item meal. Students must select a minimum of two items.	This is a 4 menu-item meal. Students must select a minimum of two items.	This is a 5 menu-item meal. Students must select a minimum of three items.

Menu planners are encouraged to promote the selection of a variety of foods by not offering the same food prepared in different ways such as mashed potatoes and potato wedges when the student is allowed multiple selections.

Developing Side Dish Groupings To Promote Healthy Choices

It is important to plan menus that reinforce nutrition messages. Because the NSMP and ANSMP approaches are not based on a structured meal pattern, students may get a mixed message when all side dishes, including those that are normally recognized as desserts, are paired against fruit and vegetable side dishes. The menu planner has the opportunity to structure menus so that students will be more inclined to select more fruits and vegetables.

◆ Carefully plan the meal structure to group choices within side dish selections. Proper alignment of choices promotes healthful choices by students.

◆ Avoid requiring students to choose between fruit and vegetable side dishes and side dishes such as desserts. Students tend to select fewer fruits and vegetables when they are placed as choices against desserts or other high-fat menu items.

For example, the following lunch menu structure will encourage students to select more fruits and vegetables:

ENTRÉE (CHOOSE ONE)	Hamburger on Bun Cheeseburger on Bun Vegetarian Lasagna Oven-baked Chicken
SIDES (CHOOSE TWO)	Baked Potato Wedges Seasoned Green Beans Sandwich Cup (lettuce leaf, sliced tomato, onion rings, sliced dill pickle) Garden Salad/Choice of Dressing Fresh Fruit Cup
SIDE (CHOOSE ONE)	Garlic Bread Whole-Wheat Sugar Cookie Cherry Gelatin with Low-fat Whipped Topping
MILK (CHOOSE ONE)	Low-fat Milk (unflavored) Low-fat Chocolate Milk Low-fat Strawberry Milk Fat-free Milk (unflavored)

NUTRIENT-BASED Menu Planning Approaches

Had all of the side dishes listed above been grouped together, with instructions to "choose three," students may have chosen garlic bread, cookie, and cherry gelatin.

Determining How Many Nutrient Analyses To Conduct

The SFA planning centralized menus for all schools is required to conduct a nutrient analysis for each age/grade grouping and/or variations in the central menu established by the SFA.

Example:
A SFA has a central menu that managers may not change except for necessary substitutions, and is using the K-6 and 7-12 age/ grade groupings for establishing nutrient standards for lunch in all schools. This SFA must have a minimum of two sets of planned and analyzed menus that meet the appropriate nutrient standards before any of the menus can be offered to students (K-6 and 7-12). More may be required, depending if any of the schools varies the central menus.

If any school does not follow the planned central menus (except for necessary last-minute approved substitutions) and instead uses different menu items and/or different portion sizes, then that school's menus must be independently analyzed using the appropriate nutrient standards for each age/grade grouping.

NUTRIENT-BASED Menu Planning Approaches

KEY

The number of sets of planned and analyzed menus that are needed will increase dramatically if individual schools within an SFA are allowed to plan their own menus or add menu items to centrally planned menus, to substitute menu items, or vary portion sizes in centrally planned menus.

Food or Theme Bars (Self-Serve)

Food bars can offer varieties in menu planning options for NSMP/ ANSMP. Some examples of food bar variations are:

Full Service Food Bars
Food bars can provide the complete reimbursable meal. A certain area of the bar is designated for the entrée and other areas are set aside for one or more side dishes. Milk is usually provided in a separate milk cooler. A suggestion is to set up the food bar to limit the number of highly saturated-fat food items, such as meats/ cheeses, that students may choose. One side dish area could offer a variety of fruits and/or vegetables; another side dish area could offer crackers and breads.

Specialty/Entree Bars

Some schools establish entrée bars such as pasta bars, potato bars, sandwich bars, and pizza bars. One or more side dishes and milk must also be included in the menu.

Side Dish Bars

A choice of side dishes, such as a variety of fruits and vegetables, can be offered on these bars. One or more entrées and milk must be included in the menu and are usually served to the students on the regular serving line.

Establishing Minimum Quantities

When students are allowed to serve themselves, the SFA must determine an appropriate minimum quantity that students must select for the menu item to be counted as part of a reimbursable meal. That quantity must be identified for the students and the cashiers on the menu and/or on the self-serve bar.

For example, an appropriate minimum quantity for an entree salad from a salad bar might be one cup. Therefore, a student would have to take at least one cup of any combination of the salad bar ingredients for the menu item to count as the entree under OVS.

KEY *The entrée, as the central focus of the meal, should contribute substantial nutrients toward meeting the nutrient requirements.*

Whole Foods Versus Fortification

Using highly fortified, processed foods instead of whole natural foods may seem like an easy solution to meeting the SMI nutrition standards. While it might be possible to plan menus that use fortified foods to satisfy the nutrient requirements, there are important reasons to use a variety of whole foods.

◆ A basic premise of the *Dietary Guidelines for Americans* is that nutrient needs shall be met primarily through consuming a variety of foods. Menus that are high in fortified and processed foods are often low in fruits, vegetables, and grains. They also tend to be high in sodium and low in fiber.

◆ Whole foods such as fruits, vegetables, and whole grains, in their natural state, contain an array of nutrients and other chemical compounds, such as phytonutrients or phytochemicals, that are necessary to health. Fortified foods might not contain such compounds.

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◆ Offering a variety of attractive and tasty whole foods teaches students how to make healthy choices.

KEY

Phytochemicals, or phytonutrients, are substances that plants naturally produce to protect themselves against bacteria, viruses, and fungi. Studies indicate that many of these plant chemicals can reduce the risk of certain diseases such as cancer. Fruits, vegetables, whole grains, beans, and nuts are all important sources of phytochemicals. Many of these substances are associated with bright colors, so fruits and vegetables that are brightly colored contain substantial amounts. Examples of phytochemicals are carotenoids and flavonoids.

Menu Substitutions

Substitutions are a particular concern for the NSMP/ANSMP approaches. Planned menus that have been analyzed, evaluated, and modified to meet the age/grade appropriate nutrient standards are very important to the concept of NSMP/ANSMP.

Last Minute and Necessary Substitutions

Occasionally it may be necessary to make a substitution to a planned menu due to various reasons such as food shortages or improper delivery from vendors, or for effective use of leftovers. This is a concern because:

◆ Substitutions change the nutrient content, and
◆ Meals may or may not continue to meet the nutrient standards.

When food substitutions are made due to an emergency situation (i.e., delivery failure), it may be impractical for the menu planner to revise menus and recalculate nutrient amounts—especially if the emergency arises just prior to the menu being prepared. For this reason, USDA regulations require an SFA or school on NSMP/ANSMP to re-analyze **if the substitution is known prior to two weeks before the menu is served.**

Two-Week Window

As discussed in the *Menu Planner for Healthy School Meals,* if a substitution must be made within the "two-week window" prior to the meal service, then the menu does not have to be re-analyzed.

If a food is substituted that is not a similar food—even within the two-week window—a re-analysis should be done.

NUTRIENT-BASED Menu Planning Approaches

Selection of Substitutions

Substitutions must be carefully selected so that key nutrients remain available to the students. For example, if a delivery of fresh strawberries does not arrive, replacing them with canned pears will not maintain the planned amount of vitamin C in the menu. A better choice would involve replacing the fresh strawberries with a fruit or vegetable that is rich in vitamin C, such as fresh oranges, orange juice, kiwi, cantaloupe, or broccoli.

Another example of a poor substitution would be to substitute French fries for oven-baked potato wedges because this substitution may result in exceeding calories from fat of the analyzed menus. Since the potato wedges are low in fat, you should substitute another low-fat vegetable item (or a fruit).

Sources of specific nutrients such as vitamin A, vitamin C, etc, are located in Appendix M. Also, the USDA-approved software has nutrient source food search capability that will allow you to locate a food item with specified nutritional contributions.

Documentation of Substitutions

The date the SFA learns of the need for a menu substitution must be documented. A sample form for documenting substitutions is located in Appendix L. While the use of this form is not required, all NSMP/ANSMP programs must document the information contained in the form.

KEY *Foodservice directors or supervisors are encouraged to set up a system that requires site/cafeteria managers to obtain pre-approval before making a substitution. This helps to impress upon managers the seriousness of making substitutions without cause.*

Importance of Standardized Recipes and Food Preparation Techniques

The use of standardized recipes in all menu planning approaches is critical to the success of NSMP/ANSMP. In addition to providing consistent quality and yield, standardized recipes are used by the SFA for conducting nutrient analyses to determine reimbursable meals.

All of the schools in a SFA that are using the SFA's central menus must use the same standardized recipes. For example, all schools must use the SFA's standardized frozen green bean recipe, which calls for reduced amounts of margarine and salt.

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WARNING *The nutrient analyses of menus is not valid if the cafeteria staff do not follow the preparation of the recipe correctly, such as substituting ingredients, not following preparation procedures, or not using correct serving utensils.*

The self-evaluation checklist on the following pages will help you to determine if your schools are correctly implementing nutrient-based menu planning approaches. Answering "no" to any of the questions indicates that changes and/or technical assistance are required. Contact your State agency for technical assistance.

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What Does It Take To Implement a Nutrient-Based Menu Planning Approach? - A Self-Evaluation Review

PROCEDURES	YES	NO
Are reimbursable meals served at the point of service?		
Meals offered contain the required food items and the portion sizes appropriate to the meal pattern(s) used for menu planning. To ensure that reimbursable meals are served: ◆ Train foodservice staff to prepare and serve reimbursable meals. ◆ Train students to select reimbursable meals. ◆ Train cashiers to recognize and count reimbursable meals.		
Is portion/serving size control being used?		
Portion/serving size control: ◆ Ensures that standardized recipes give consistent yields. ◆ Ensures that the nutritional contribution of the portion is consistent from serving to serving and day to day. ◆ Ensures that each age/grade group is served the correct portions of foods as planned. ◆ Ensures that meals are reimbursable. ◆ Ensures that food costs are consistent.		
Is Offer Versus Serve implemented correctly?		
◆ Reimbursement for meals is based on each meal claimed containing an entrée and meeting the required number of menu items as defined by the menu. ◆ School foodservice staff, including cashiers, have continuous OVS training. Menus should have a consistent meal structure. ◆ Students are trained in the requirements of OVS. ◆ Serving line instructions are provided for students regarding the selection of reimbursable meals.		

What Does It Take To Implement a Nutrient-Based Menu Planning Approach? - A Self-Evaluation Review (continued)

PROCEDURES	YES	NO
Are food production records documented and maintained as required by regulations?		

◆ Daily production records document:
  – All food items served in a reimbursable meal
  – Recipe or food product used (note if a USDA recipe)
  – Planned/projected number of portions and serving sizes for each age/grade group
  – The types/quantities of food used to prepare the meals (for example, number of servings, pounds, cans)
  – Actual number of reimbursable meals served (indicate this information for each age/grade group)
  – Leftovers or substitutions
  – Number of reimbursable meals planned and served for each age/grade group; and
  – Number of other meals (adult and special meals) planned and served
  – Number of á la carte sales when part of a reimbursable meal*
◆ This required documentation helps ensure that sufficient food has been prepared and served to students for each day of your menu cycle.
◆ Food production records are necessary to determine projected number of servings for each menu item for weighted averaging of nutrient analyses.
◆ The State agency uses food production records during a CRE Review to determine if reimbursable meals are served.
◆ Ask your State agency for a state prototype or refer to USDA's *A Menu Planner for Healthy School Meals* for examples of food production records.
◆ Check with your State agency for their requirements on documenting á la carte food items (not part of a reimbursable meal) on the food production records.
 	
*Check with your State agency for their requirement on documenting a la carte food items (not part of a reimbursable meal) on the food production records.		

Are standardized recipes used?		
A standardized recipe: ◆ Has been tried, adapted, and retried several times for use by a given foodservice operation. ◆ Uses the exact procedures, the same type of equipment, and the same quantity and quality of ingredients each time. A standardized recipe, if followed correctly, will: ◆ Produce the same quality and yield each time. ◆ Contribute consistent meal pattern components each time. ◆ Contribute consistent calories and nutrients to the meal each time.		

What Does It Take To Implement a Nutrient-Based Menu Planning Approach? - A Self-Evaluation Review (continued)

PROCEDURES	YES	NO
Are cycle menus used?		
Cycle menus are a set of established menus–containing the same menu items and choices–repeated on a periodic basis. While not required by regulations, cycle menus have advantages; they: ◆ Identify and offer popular foods. ◆ Save time and allow your staff to become adept at production. ◆ Achieve production balance. ◆ Help you stay within the budget. ◆ Assist in identifying menu changes needed to meet nutrition goals.		
Is nutrition information available for all commercially prepared food products?		
Nutrition information on commercially prepared products is necessary: ◆ To compare products when purchasing. ◆ For data entry of nutrition content of items not in the software database. Two documents *that provide nutrition information are: ◆ Nutrition Facts Labels – Nutrition Facts Labels provide nutrition information on the product and, while not required on institutional-sized food packaging, are found on many food products. ◆ Manufacturer's Data Submission Form – When a Nutrition Facts Label is not provided for the product, you can require the manufacturer to complete a Manufacturer's Data Submission Form with the nutrient content of the product. * Refer to Appendixes J and K for copies of these two documents.		
Are there written descriptions on all food products?		
Food specifications, or descriptions, are important for procurement and to select the appropriate food in the database during nutrient analyses.		
Do you and your staff have the skills and knowledge to conduct nutrient analysis?		
◆ Menu planning/nutrient analyses staff have expertise in nutrition and food preparation. ◆ The resources needed to maintain NSMP/ANSMP as required by regulations are: – Funding – Trained staff – Computer equipment and support – USDA-approved software ◆ You have reviewed the *Nutrient Analysis Protocols*, and understand the process of conducting a nutrient analysis.		

What Does It Take To Implement a Nutrient-Based Menu Planning Approach? - A Self-Evaluation Review (continued)

PROCEDURES	YES	NO
Do you have the commitment and support that this approach requires?		
◆ Do you have complete control over menu planning, so food substitutions will not occur as the result of personal preferences? ◆ Is your staff committed to using the menus, standardized recipes, food preparation and portioning techniques exactly as planned?		
Do you have the time to implement NSMP/ANSMP?		
◆ Do you have time to aggregate the forecasted number of servings for all schools, for weighted averaging, if central menus are analyzed or to conduct the nutrient analysis on all schools if centralized menus are not used? ◆ Have you allowed enough time to complete the process of menu planning and nutrient analysis prior to implementing NSMP/ANSMP?		
Do menus include a variety of foods?		
◆ Are fruits, vegetables, and whole grains offered daily? ◆ Do you plan a variety of foods and avoid excessive use of fortified and highly processed foods?		
Does your current procurement/delivery system prevent changes/substitutions other than last minute and necessary ones?		

If you are considering using ANSMP, there are additional factors to consider:

ANSMP PROCEDURES*	YES	NO
Prior to use, has the State agency approved the initial menu cycle, recipes, and other specifications of the ANSMP? *After reviewing, the State agency may reject the contract, even with modifications. It is still your responsibility under ANSMP to meet the nutrition standards.		
Do you have the expertise and resources to manage a contract?		
◆ Does your staff have the expertise to prepare and develop the Request for Proposal or Invitation for Bid documents, evaluate bids, and manage a contract? ◆ Does your school district/school have sustained funding available for contracts associated with ANSMP?		
Do you have the resources necessary for re-analyzing and menu adjustments when changes in menus occur such as changes in student participation, special events, food preferences, new products, etc?		

If you answered "no" to any of the above questions, contact your State agency for training and technical assistance in the appropriate area(s).