2012 California Title III-C Menu Planning Guidance

Attachment 1 of PM 12-17(P)

Purpose

This Guidance provides an overview of the updated Dietary Guidelines for Americans, 2010 (DGAs) and offers information on the application of the DGAs specifically for California's older adult population to the Elderly Nutrition Program (ENP) meal planning process.[i]

Traditionally the DGAs were intended for "healthy Americans". However, the obesity epidemic created a shift in public health policy in America. The 2010 DGAs were created to address, "Americans ages two years and older including those at increased risk for chronic disease."

The overarching differences between the 2010 and 2005 DGAs include:

- An emphasis on managing body weight and on proper nutrition for all life stages.
- Also, for the first time, the 2010 DGAs incorporated research on eating patterns, including vegetarian patterns.
- A new section acknowledges the influence of the broader food and physical activity environment on Americans' daily food, beverage, and physical activity choices. This section calls for improvements to the food environment via systematic and coordinated efforts among all sectors of influence. Industry, marketing, and agriculture impact choices in daily food intake and physical activity as well as social and cultural norms and individual demographic factors.

The 2010 DGAs include four action steps for the American public.[ii]

1. Reduce the incidence and prevalence of overweight and obesity of the US population by reducing overall calorie intake and increasing physical activity.
2. Shift food intake patterns to a diet that emphasizes vegetables, cooked dry beans and peas, fruits, whole grains, nuts, and seeds. In addition, increase the intake of seafood and fat-free and low-fat milk and milk products and consume only moderate amounts of lean meats, poultry, and eggs.

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Purpose, *continued*

3. Significantly reduce intake of foods containing added sugars and solid fats because these dietary components contribute excess calories and few, if any, nutrients. In addition, reduce sodium intake and lower intake of refined grains that are coupled with added sugar, solid fat, and sodium.

4. Meet the *2008 Physical Activity Guidelines for Americans*.

Reference

To access the 2010 DGAs click the link below:
http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

Background

The Department of Health and Human Services (HHS) and the Department of Agriculture (USDA) review, update, and publish the DGAs every five years.

The DGAs establish the scientific and policy basis for all Federal nutrition food assistance programs and provide information for making food choices that promote health and prevent disease. A committee of experts recommends revisions to the DGAs based on a comprehensive review of current scientific evidence.

The Older Americans Act (OAA) requires that the Title IIIC ENP comply with the most recent DGAs and the Dietary Reference Intakes (DRIs). The intent is to ensure that the ENP sustain and improve participant health through the provision of safe and nutritious meals. Implementing the DGAs provides each participating older individual a minimum of 33 1/3 percent of the DRIs per meal.

Evidence supports that ensuring adequate nutrient intake and physical activity reduces the risk of chronic disease. Menus based on the DGAs and DRIs prevent nutrient deficiencies and reduce the risk of chronic diseases such as heart disease, cancer, and stroke which are the leading causes of death in California. The California Department of Aging (CDA) incorporates the key nutrient recommendations from the DGAs that impact older Californians' health status into ENP menu planning guidance.

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General Menu Planning Requirements

The following are general ENP menu planning requirements:

OAA Requirements

Each ENP meal must comply with the most recent DGAs and provide to each participating older individual:

- A minimum of 33 1/3 percent of the DRIs per meal, if the project provides one meal per day.
- A minimum of 66 2/3 percent of the DRIs if the project provides two meals per day.
- 100 percent of the DRIs if the project provides three meals per day.

OAA requires programs that provide multiple meals per day to either ensure that the participant is receiving all meals or ensure that each meal provides 33 1/3 percent of the DRIs.

All meals provided through the ENP that receive NSIP funds, whether prepared on-site, frozen, non-perishable (e.g. canned goods or pasta, products that do not spoil), boxed, or catered, must comply with the most recent DGAs and provide a minimum of 33 1/3 percent of the DRIs.

Offer versus Serve

The ENP must offer participants all of the required menu items; however, participants may decline to eat any element of the planned meal.

Dietary Reference Intake Value Definitions [iii]

The DRIs include four nutrient-based reference values used to assess and plan the diets of healthy people. The DRI values include:

- Estimated Average Requirement (EAR): an estimate of the average daily nutrient intake that meets the nutrient needs of half the healthy individuals of a population group.

- Recommended Dietary Allowance (RDA): an estimate of the daily average dietary intake that meets the nutrient needs of nearly all (97-98 percent) healthy members of a particular age group and gender.

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Dietary Reference Intake Value Definitions, [iv] *continued*

- Adequate Intake (AI): the daily dietary intake level of healthy people assumed to be adequate when there is insufficient evidence to set an RDA.
- Tolerable Upper Intake Level (UL): the highest average daily nutrient intake level likely to pose no risk of adverse health effects for nearly all people in a particular population group.

Menu Planning Using Dietary Reference Intakes

AAAs must adapt the DRIs to plan older adults' nutrient intake.

According to a 2009 National Survey of OAA participants, the ENP meal provides 40-50 percent of the nutrient intake per day for more than half of the participants.[v]

When planning menus specifically for older adults, the DGAs intent is to provide nutrient intakes that achieve a low probability of nutrient inadequacy while not exceeding the UL for each nutrient. Research indicates using the highest DRI value available, the RDAs, will assure meals provide adequate nutrients to the vulnerable population served by the OAA. When the RDA is not available for a particular nutrient then use the AI. (Note: This is the case with fiber and potassium).[vi]

Target Nutrients

AAAs must determine target nutrient levels based on the predominant population characteristics of the participants in the Planning and Service Area (PSA). The selected target nutrients promote health and reduce risk of disease.

A 70-year-old sedentary female is representative of the majority of the older adult population serviced by the California ENP. Each PSA should determine their predominant demographic characteristics and evaluate if the meals meet the target nutrient needs of the population served. If a majority of the older adult population served by the Area Agency on Aging (AAA) ENP differs from the above example, use the predominant demographic characteristics of the participants served to develop a menu pattern for the population.

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Target Nutrients, *continued*

Use the component meal pattern information in Appendix 7 (USDA Food Patterns), Appendix 8 (Lacto-ovo), Appendix 9 (Vegan Adaptation), or Appendix 10 (DASH Eating Plan) from the DGA website: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm.

These appendices provide menu patterns for various caloric levels.

The target nutrient values listed in Table 1 represent the current DRI values and daily compliance ranges for target nutrients that would meet the requirements of a 70-year-old sedentary female (1600 calories). The values provided are a minimum of 33 1/3 percent of the DRIs for the estimated calorie needs per day by age, gender, and physical activity level.

Adequate dietary intakes of certain nutrients are of particular concern for older adults:

- Calcium
- Potassium
- Magnesium
- Fiber
- Vitamins A, B_{12}, C, and D

The over-consumption of other elements is also a concern: sodium, saturated fat, trans fats, and cholesterol can lead to increased risk of chronic disease.

The target nutrients selected are the nutritional elements that:

- Promote health and prevent disease.
- Prevent deficiencies.
- Indicate diet quality.
- Manage disease.
- Meet the DGAs' key recommendations for older adults.

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Table 1
Target Nutrients

Nutrient	Target Value *per meal	Per Meal Compliance Range
Calories (Kcal)*	>550 Kcal	≥550 Kcal
Protein	15 gm	15 gm (in the primary protein source)
Fat (% of total calories)	20-35%	<35% (may average over a week)
Saturated Fat (% of total calories)	<10%	<10%
Trans Fat	<0.5g	CRFC Chapter 12.6 section 114377. **
Sodium (mg)	500-750 mg	<1,000 mg ***
Fiber (gm)	>7 gm	>7 gm (may average over a week) (Based on AI value)
Vitamin A (µg RAE) ****	233 µg	> 233 µg 3 out of 5 days /wk or 4 out of 7 days/wk
Vitamin C (mg)	25 mg	25 mg
Vitamin B12 (ug)	0.8 µg	0.8 µg * (may average over a week)
Calcium (mg)	400 mg	>400 mg (may average over a week)
Magnesium (mg)	105 mg	>105 mg (may average over a week)
Potassium (gm)	1565 mg	1565 mg * (may average over a week) (Based on AI value)
Vitamin D	200 IU / 3 µg	200 IU / 3 µg (may average over a week)

*NOTE: It is necessary to use fortified foods to meet vitamin B_{12} needs.

**California Retail Food Code: Commencing January 1, 2011, no food containing artificial trans fat, including oil and shortening that contains artificial trans fat for use in the deep frying of yeast dough or cake batter, may be stored, distributed, served by, or used in the preparation of any food within, a food facility.

***Recommended sodium content is liberalized based on the information from the 2009 National Survey of OAA participants, data indicated that the ENP meal provides 40-50 percent of the participant's daily intake for more than half of the participants. Identify meals containing over 1,000 mg of sodium on the menu with an icon or asterisk referencing high sodium content.

****RAE Retinol Activity Equivalent (RAE)

Menu Analysis

Analysis of ENP menus ensures that the meals provide a minimum of 33 1/3 percent of the DRIs as required by the OAA.

ENPs may analyze menus using any of the following methods:

1. Computerized Nutrient Analysis
    - Although not required, CDA recommends computerized nutrient analysis for precise nutrient breakdown.
2. Component Meal Pattern
    - Meal component patterns serve as a basic framework for menu planning and are designed to include required key elements. (ENPs may use the sample meal pattern template that is attached).

When evaluating menus, meals must supply a minimum of 33 1/3 percent of the DRIs for:

- Protein
- Vitamin A
- Vitamin C
- Fiber
- Calories
- Calcium

Computerized nutrient analysis may reveal inadequate intake of other nutrients; these nutrient levels should be the focus of future menu revisions and/or nutrition education.

Component Meal Pattern Options

ENPs may use component meal patterns to design menus.

It is possible that each meal will meet the required DGAs and DRIs by providing the recommended number of servings from each food group in a component meal pattern.

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Component Meal Pattern Options, *continued*

However, menus must include specific types of fruits and vegetables, whole grains, and high fiber foods to ensure they meet the required nutrient intake level.

ENPs must identify items that provide the following target nutrients on the component meal pattern template:

- Vitamin C – Provide a minimum of 33 1/3 percent of the DRIs for vitamin C each meal - 25 mg per meal.
- Vitamin A – Provide a minimum of 33 1/3 percent of the DRIs for vitamin A at least three times per week - 233 µg Retinol Activity Equivalent (RAE) per meal.
- Fiber – Provide seven grams of fiber per meal. Programs may choose to average fiber content over a week.
- Sodium – Estimate the sodium content of the meal and note the total on the component template.

Menus developed with the component meal patterns may be deficient in vitamins D, E, and B_{12}, magnesium and zinc. Meals that do not meet the nutrients requirements should be the focus of future menu revisions. Nutrients that are not supplied in meals should be the focus of nutrition education.

ENPs may design menus using the following component meal pattern options:

- California 1600 Calorie per Day Component Meal Pattern – Appendix 1,
- Dietary Approaches to Stop Hypertension (DASH) Eating Plan – Appendix 2, or
- USDA Food Pattern (Including the vegetarian adaptations) – Appendix 3.

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California 1600 Calorie per Day Component Meal Pattern

The elements listed in Appendix 2 represent the California 1600 Calorie per Day Meal Pattern. The USDA Food Patterns are the foundation for the California 1600 Calorie per Day Meal Pattern. The 1600 calorie range meets the requirements for a 70-year-old sedentary female.

The California Meal Pattern nutrient requirements are calculated from the USDA Food Pattern using the minimum caloric requirements of 1600 calories per day to provide the nutrient requirements of the majority of the participants in California's nutrition programs.

If the majority of the population a local ENP provider serves falls within another demographic group (for example: active 60-year-old men) the serving sizes and minimum number of servings required can be adjusted to meet the needs of the majority of the population served. Local providers should verify the demographics of the population served and develop menu criteria accordingly.

Meal Components

Each local ENP must include the following components when planning menus.

Protein – Meats, Fish, Poultry, Legumes, Eggs, and Cheese

The protein foods include seafood, meat, poultry, eggs, beans, and peas, cheese, soy products, and nuts and seeds. Meat and poultry should be lean or low-fat, and nuts should be unsalted. Meat, poultry, eggs, and cheese contain solid fats which are associated with an increased risk of cardiovascular disease.

Each meal should contain a **minimum** of two ounces of cooked, edible portions of meat, seafood, poultry, cheese, or eggs (or a combination thereof) and provide at least 15 grams of protein from these foods.

Vegetable proteins such as legumes or beans should provide at least a two-ounce protein equivalent. Local ENPs should consider the preferences of the participants they serve. A two-ounce serving of protein in a casserole type entrée may provide the appearance of being a sufficient entrée; however, a two-ounce serving of chicken, fish or beef would appear very small. The local ENP may choose to

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Meal Components, *continued*

serve a larger portion of meat than the required two ounce minimum based on participant preference.

Vegetarian Option

Vegetarian eating patterns have been associated with a reduced risk of chronic disease, cardiovascular disease and obesity, and lower total mortality. ENP providers may use plant based protein sources to meet the protein requirements.

Count legumes as either a vegetable or protein component. Do not count legumes as both a vegetable and a protein component.

There is no longer a requirement for high biological value protein.

Vegetables and Fruits

Vegetables and fruits are nutrient dense foods containing vitamins, fiber, minerals, and other substances that may have positive health effects with relatively few calories.

- Encourage ENP participants to eat a variety of vegetables, especially dark green, red, and orange vegetables.
- Focus on dietary fiber; beans and peas are good sources.

Serving size for vegetables:

- ½ cup cooked legumes.
- ½ cup cooked vegetables.
- 1 cup raw leafy green vegetables, such as, lettuce or salad.

Serving size for fruit:

- 1 medium sized whole fruit.
- ½ cup fresh, chopped, cooked, frozen, or canned fruit.
- ½ cup 100 percent fruit juice.

Choose fresh, frozen, or canned fruit packed in water or juice, light syrup or without sugar. Before serving, rinse fruit packed in heavy sugar syrup.

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Meal Components, *continued*

The 2010 DGA encourage the consumption of whole fruit rather than 100 percent fruit juice. Fruit juice lacks dietary fiber. Fruit juice is a high glycemic index food that contributes extra unwanted calories when consumed in excess. High glycemic foods can significantly increase blood glucose in those with diabetes.

Breads/Grains

One-half of the daily grain intakes should be from whole grains. Processed grains (not whole) must be fortified. Fifty-fifty mixtures of white and brown rice meet the requirement for whole grain and have demonstrated acceptance among ENP participants. For variety, consider serving other grains such as corn, millet, oats, or quinoa.

Milk

Each meal shall include, eight ounces of fat-free milk, low-fat milk, 1 percent milk, buttermilk, or calcium fortified soy milk or orange juice. Omit milk if participants' religious, cultural or personal preferences preclude the acceptance of milk with the meal. In these instances, offer an equivalent high calcium substitute.

Other Menu Planning Considerations

This section discusses other factors to consider when planning menus for older adults.

Hydration and Fluids

Programs should encourage participants to drink water with their meals to ensure proper hydration. Older adults are at risk for dehydration due to physiological changes that occur with age. These physiological changes include a decrease in total body water related to the decrease in lean body mass, a decline in thirst sensitivity, and a decreased ability to regulate body temperature in extreme temperature changes. Exposure to heat and certain medications may require older individuals to consume additional fluids to remain sufficiently hydrated.

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Other Menu Planning Considerations, *continued*

Fat

Replace solid fats with plant based oils to improve diet quality without added calories.

Choose plant based oils which have a high percentage of beneficial monounsaturated and polyunsaturated fatty acids.

The DGAs encourage using oils as they contribute essential fatty acids to the diet. No food containing artificial trans-fat may be stored, distributed, served, or used in the preparation of any food within a food facility. [CRFC 114377]

Limit the consumption of solid fats. Solid fats are those that are solid at room temperature and have a high concentration of trans and saturated fats. Common sources of solid fats include, butter, beef, chicken, pork, stick margarine, and shortening.

Dessert

Certain foods consumed in excess increase the risk of chronic disease these include, refined grains, solid fats, added sugars, and sodium. The 2010 DGAs encourage limiting the consumption of these foods.

Caloric energy requirements decrease with age yet vitamin and mineral needs for the most part remain constant. Older adult menu development must limit discretionary high energy food items (e.g. cakes, cookies, etc.) to design a diet that meets nutrient requirements without exceeding energy requirements.

Provide dessert occasionally as an optional element of the meal to satisfy caloric requirements or to deliver additional nutrients. Local ENPs should avoid serving desserts that are high in sugar, refined grains, and solid fats no more than once per week.

CDA encourages use of fruit as dessert**.**

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Other Menu Planning Considerations, *continued*

Sodium

The DGAs encourage reducing daily sodium intake to 1,500 mg per day for persons aged 51 or older, African Americans, persons who have hypertension, diabetes, or chronic kidney disease.

The target value for sodium is 500 mg per meal. The acceptable range is 500 - 750 mg per meal. However, the ENP meal provides 40-50 percent of the nutrient intake for the day for more than half of its participants[vii]. This fact provided the basis for establishing an acceptable ENP sodium range that is slightly higher than the DGAs recommends.

A potassium rich diet blunts the effect of sodium on blood pressure. Research suggests that the general population does not consume sufficient amounts of potassium and would benefit from increasing potassium intake from foods.[viii]

Menu planners should take steps to reduce the levels of sodium in meals over time, including the following:

- Focus on a stepwise reduction of sodium over time.
- Set a goal to reduce sodium content of meals each year. For example:
    1. "The local ENP will reduce the sodium level of the meals by 5 percent over this Fiscal Year" or
    2. "The ENP will provide not more than two high sodium meals per month."
- Maintain documentation of the reduction of sodium content of meals.
- Place potassium rich foods on the menu consistently.
- Provide nutrition education on the health impacts of high sodium intake on older adults.
- Prepare foods without adding salt in the cooking process.
- Use herbal seasoning to replace salt.

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Other Menu Planning Considerations, *continued*

- Avoid potassium chloride salt substitutes. Individuals should only use these products under the supervision of a healthcare professional.
- Encourage using oil and vinegar as the preferred salad dressing. Provide at least one low-sodium salad dressing option.
- Use an icon, such as a saltshaker, to identify a high sodium meal or clearly state on the menu that this meal contains more than 1,000 mg of sodium.
- ENPs should establish policies and procedures for purchasing healthful foods that incorporate the DGAs' sodium recommendations.
- ENPs can participate in transforming the food service industry by creating a demand for products that are lower in sodium and working with food purveyors to purchase lower sodium foods. Responsibility to reduce the amount of sodium in the diet of all Americans falls on both the food industry and consumers.[ix]

Ethnic Meals

Many of California local ENPs provide culturally appropriate meals for an ethnically diverse population. Programs that provide culturally appropriate meals that may be higher in sodium are encouraged by CDA to place a statement on each menu such as: "These meals may have higher sodium content than the recommendations made by the Dietary Guidelines for Americans."

The following are some suggestions to address the high sodium content of ethnic meals.

- Use low sodium soy sauce or dilute soy sauce with water to reduce sodium levels.
- Provide low sodium or diluted soy sauce as a condiment at meals, instead of adding them to meals during preparation.

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Other Menu Planning Considerations, *continued*	• Encourage vendors to provide low sodium alternatives at a reasonable cost. • Place potassium-rich foods on the menu consistently. • Provide nutrition education on the health impacts of high sodium intake on older adults.
Inquiries	Please contact the CDA Nutritionist assigned to your AAA.

Appendix 1
California 1600 Calorie per Day Component Meal Pattern

Minimum recommended Elements		
Food Group	**One Serving Equals**	**Servings for 550 Calories* per meal ** **
Lean meat or beans	2 ounces protein equivalent	1 serving
Vegetable	½ cup cooked vegetables 1 cup raw leafy greens	1 - 2 servings
Fruit	½ cup	1 serving
Bread or Grain At least ½ whole grain	1 slice bread ½ cup cooked rice or pasta	1 - 2 servings
Low-fat milk or milk alternate	1 cup or 8 ounces	1 serving
Oils (Optional)***	7 grams	1 serving
Dessert	Select food items high in fiber and low in fat and sugar	Optional – limit sweets serve fruit

*Caloric value (1,600 Kcal/day or 550 cal/meal) based on a 70-year-old female, “sedentary" physical activity level using Table 2-3 Estimated Caloric Needs per Day by Age, Gender, and Physical Activity Level from the Dietary Guidelines for Americans, 2010.

**The number of servings per meal estimates providing of one-third of the DRIs.

***Oils and soft margarines include vegetable, nut and fish oils, and soft vegetable oil spreads that have no trans fats.

Appendix 2
DASH Eating Pattern

Minimum Recommended Elements		
Food Group	**1,600 Calories Daily**	**550 calories per meal**
Grains	6 servings	2 servings
Vegetables	3 - 4 servings	1 - 2 servings
Fruits	4 servings	1.3 servings
Low-fat or fat free dairy	2 - 3 servings	1 serving
Meat, poultry, and fish	3 - 4 servings (1 oz each)	1 – 2 servings
Seeds, nuts, and legumes	3 - 4 servings per week	0 - 1 serving
Fats and oils	2 servings	
Sweets	3 or less servings per week	

Appendix 3
USDA Food Pattern

Minimum Recommended Elements		
Food Group	**1,600 Calories Daily**	**550 calories per meal**
Grains	5 ounce grain equivalent*	1 – 2 ounces
Vegetables**	2 cups (4 - ½ cup servings)	.7 cups
Fruits	1.5 cups	.5 cups
Low-fat Milk or Milk alternate	3 cups	1 cup
Lean meat and beans	5 ounce protein equivalent***	1.7 - 2 ounce equivalent
Oils	22 grams	7 grams
Discretionary calorie allowance	121 calories	40 calories

* The following each count as a one-ounce grain equivalent: one ounce slice of bread, one ounce uncooked pasta or rice, one half cup cooked rice or pasta, one tortilla (6 inch in diameter), one pancake (5 inch in diameter).

** USDA recommends eating a variety of vegetables, especially dark green vegetables, red and orange vegetables, and beans and peas.

*** The following each count as a one-ounce protein equivalent: one ounce lean meat, poultry, seafood; one egg; one tablespoon peanut butter; one half ounce nuts or seeds and one quarter cup cooked beans or peas.

End Notes:

[i] Dietary Guidelines for Americans, 2010 United States Department of Health and Human Services, United States Department of Agriculture. http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

[ii] Questions and Answers on the 2010 *Dietary Guidelines for Americans*
http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/QandA.pdf

[iii] Dietary Reference Intakes: The Essential Guide to Nutrient Requirements, Institute of Medicine of the National Academy of Sciences/National Research Council

[iv] Dietary Reference Intakes: The Essential Guide to Nutrient Requirements, Institute of Medicine of the National Academy of Sciences/National Research Council

[v] 2009 National Survey of OAA Participants, Congregate, and Home delivered meal participants / what portion of all food does OAA meal represent? http://www.agidnet.org/CustomTables/NPS/Results/ Retrieved on February 13, 2012.

[vi] Dietary Reference Intakes: The Essential Guide to Nutrient Requirements, Institute of Medicine of the National Academy of Sciences/National Research Council

[vii] 2009 National Survey of OAA Participants, Congregate, and Home delivered meal participants / what portion of all food does OAA meal represent? http://www.agidnet.org/CustomTables/NPS/Results/ Retrieved on February 13, 2012

[viii] Dietary Guidelines for Americans, 2010 United States Department of Health and Human Services, United States Department of Agriculture. http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

[ix] Position of the Academy of Nutrition and Dietetics: Food and Nutrition for Older Adults: Promoting Health and Wellness, Journal of the Academy of Nutrition and Dietetics, August 2012 Volume 112 Number 8; 1255-1277.