—TECHNICAL ASSISTANCE MEMORANDUM—

Texas Department of Aging and Disability Services (DADS) – Access and Intake Division

TITLE:	Nutrition Programs Guidelines - Compliance with the Dietary Reference Intakes (DRIs) and Dietary Guidelines for Americans (DGA) Requirements	**NUMBER:**	AAA-TA 305
SECTION:	Area Agencies on Aging	**APPROVAL:**	Betty Ford
ISSUE DATE:	4/7/11	**REVISION DATE:**	NA
RELEVANT CITATIONS:	OAA §339(1) (2)(A)(i)-(iii); 40 TAC, Chapter 55 – Contracting to Provide Home-Delivered Meals		
DISTRIBUTION:	☐ Executive Director ☒ Director ☐ Fiscal Director ☒ AAA Section Staff		

This technical assistance memorandum (TA) provides guidance and possible options area agencies on aging (AAA) and nutrition program service providers can use to meet menu requirements to assure compliance with the Older Americans Act (OAA), as amended in 2006, Section 339 (2)(A)(i) - (iii). This TA supplements the Nutrition Programs Guidelines-Compliance with the Dietary Reference Intakes (DRIs) and Dietary Guidelines for Americans (DGA)-Program Instruction, AAA-PI 314. This TA replaces AAA-TA 302.

Background:

OAAs requirements are based on the scientific evidence that indicates adequate nutrition is necessary to maintain cognitive and physical functioning; to prevent, reduce and manage chronic disease and disease related disabilities; and sustain health and quality of life. These requirements ensure the provision of safe and nutritious meals that:

1) Comply with the most recent Dietary Guidelines for Americans (DGA) jointly issued and updated every five years by the Departments of Agriculture and Health and Human Services; and
2) Provide to each participating older individual:
   - a minimum 33 1/3% of the Dietary Reference Intakes (DRI) established by the Food and Nutrition Board of the Institute of Medicine of the National Academy of Sciences if the project provides one meal per day;
   - a minimum 66 2/3% of the DRI if the project provides two meals per day; and
   - 100 percent of the DRI if the project provides three meals per day.

The Nutrition Programs Guidelines seek to update and align with the most recent DGA and DRIs to support more fruits, vegetables, and whole grains; reduce the sodium content of the meals substantially over time; and control fat and calorie levels in the meals.

Dietary Guidelines for Americans 2010

The Department of Health and Human Services (HHS) and the Department of Agriculture (USDA) publish the Dietary Guidelines for Americans jointly every five years. The DGA provide authoritative advice for people two years and older about how good dietary habits can promote health and reduce risk

for major chronic diseases. They serve as the basis for Federal food and nutrition education programs. The new 2010 Dietary Guidelines for Americans focus on balancing calories with physical activity to manage weight.

The Guidelines also encourage Americans to consume more healthy foods emphasizing potassium, fiber, calcium, and vitamin D nutrient rich food sources. This includes:

- vegetables
- fruits
- whole grains
- fat-free and low-fat dairy products
- seafood

Foods and food components to reduce in the diet include:

- sodium- 1500 mg or less per day for adults 51+
- saturated fatty acids—less than 10% of calories
- trans fats—as low as possible
- cholesterol—less than 300 mg per day
- calories from solid fats and added sugars
- refined grains
- alcohol

The 2010 Dietary Guidelines is available at www.dietaryguidelines.gov or through http://www.dads.state.tx.us/providers/AAA/dri/index.html.

Dietary Reference Intakes

DRI is a system of nutrition recommendations from the Institute of Medicine (IOM) of the U.S. National Academy of Sciences. The DRI system is used by both the United States and Canada and is intended for the general public and health professionals. It was introduced in 1997 in order to broaden the existing guidelines known as Recommended Dietary Allowances (RDAs). The current DRI recommendation is composed of four catatories:

- Estimated Average Requirements (EAR);
- Recommended Dietary Allowances (RDA);
- Adequate Intake (AI); and
- Tolerable Upper Intake Levels (UL).

For the purposes of the Nutrition Program Guidelines, the RDA value will be used in documentation of nutritional adequacy when the AI value has not been determined. (Attachment A).

Consumer Input

Obtain consumer input when planning menus. This input can be obtained through menu committees, food preference surveys, focus group, or other methods to solicit input. Providing culturally or ethnically appropriate, high quality, and tasty meals can be an effective outreach to the target population.

Principles of Menu Planning

Food served in the same meals should provide variety in texture, flavor and color. A good rule is to include in a menu a crisp, a firm, and a soft food. This will guard against meals monotonous in texture.

Several highly seasoned foods should not be combined in one meal. Foods that make an attractive color combination tend to stimulate the appetite.

Cost Control

Careful planning is essential if meals are to remain within budgeted costs, be appealing to the consumer, and assure compliance with the Nutrition Program Guidelines. To control meal cost, careful consideration should be given to the following:

- use of raw foods vs. convenience foods on the menus;
- food availability or seasonal foods;
- purchasing practices that provide the correct quantity, the best quality at the right price;
- food storage procedures and equipment to minimize loss or waste;
- labor skill and number of employees to maximize efficiency; and
- packaging/food containers to support food safety and temperature control.

A key to cost control in menu planning is the use of cycle menus and standardized recipes in menu planning.

Cycle Menus

A cycle menu is a menu set providing a different menu every day and repeats itself after a number of weeks. A cycle menu set for the nutrition program is usually four to six weeks in length with four cycle menu sets provided per year (spring, summer, fall, winter cycles). Development of a cycle menu should consider:

- available storage for food;
- purchasing & delivery schedule of vendors;
- production limitations based on labor, equipment, number of meals;
- seasonal foods available; and
- regional or traditional foods of the participant served.

The advantages of a cycle menu are:

- reduces menu planning time;
- streamlines purchasing procedures;
- helps standardize food production;
- helps the food service become more efficient;
- serves as a training tool; and
- aids in evaluating food service-quality, efficiency, and costs.

Standardized Recipes

A standardized recipe is one that has been repeatedly tested for consistency, quality, and yield therefore using the same procedures, equipment, and ingredients will produce the same product each time prepared. The advantages of using standardized recipes include:

- customer satisfaction due to a high quality product;
- consistent nutrient content because the same ingredients/amounts are used;
- food cost control due to reduced food waste in storage and preparation;
- efficient purchasing by knowing exact amounts of food to purchase;

- labor control through utilizing staff skills efficiently; and
- supports portion control by providing detailed information about the serving size, serving utensil and yield.

There are several sources for reliable standardized recipes.

- Food for Fifty by Mary K. Molt; Prentice Hall; 12th edition
- quantity recipes published by USDA (portion sizes will need to be adjusted for adults):
    - Recipes for school and child care
    - National Food Service Management Institute
- tested recipes from food manufacturers using their products
- standardized favorite or popular recipes through a process of reviewing the recipe, preparing in a small quantity, recording, determining the yield, evaluating, and retesting

Menu Choice

Providing a choice in menu or menu items helps to promote consumer satisfaction and emphasize quality consumer service. Providing a selective menu can include offering:

- one entrée with a choice of vegetables or desserts;
- choice of two entrees;
- choice of two or more distinct and complete menus;
- soup and salad bars; or
- café style service.

Use of computer nutrient analysis provides the flexibility to compute the combinations of nutrients needed to comply with the target nutrient requirements.

Menu Evaluation

An evaluation of the menu and meal service can include:

- compliance with program requirements (Attachment B-Menu Monitoring for Compliance Tool);
- analysis of the actual cost per meal against budget costs;
- customer satisfaction surveys; and
- survey of plate waste (congregate setting).

Nutrition Program Support Website:

DADS will be providing updated resources, menu and recipe sharing, and technical support for the implementation of the Nutrition Programs Guidelines through a dedicated website.
http://www.dads.state.tx.us/providers/AAA/dri/index.html

AAA Directors should ensure this information is shared with all nutrition service providers.

Questions and comments should be sent to the Department's Help Desk at T3Ahelp@dads.state.tx.us.

Attachment A: Dietary Reference Intakes for Older Adults

Table 1 - Dietary Reference Intakes for Older Adults

Vitamins and Elements

	vitamin A	**vitamin C**	**vitamin D**	**vitamin E**	**vitamin K**	**thiamin**	**riboflavin**	**niacin**	**vitamin B6**	**folate**
RDA or AI 1	(ug)	(mg)	(IU)	(mg)	(ug)	(mg)	(mg)	(mg)	(mg)	(ug)
Age 51-70 Male	**900**	**90**	**600**	**15**	120*	**1.2**	**1.3**	**16**	**1.7**	**400**
Female	**700**	**75**	**600**	**15**	90*	**1.1**	**1.1**	**14**	**1.5**	**400**
Age 70+ Male	**900**	**90**	**800**	**15**	120*	**1.2**	**1.3**	**16**	**1.7**	**400**
Female	**700**	**75**	**800**	**15**	90*	**1.1**	**1.1**	**14**	**1.5**	**400**
Tolerable Upper Intake Levels										
Age 51-70 Male	3000	2000	4000	1000	ND	ND	ND	35	100	1000
Female	3000	2000	4000	1000	ND	ND	ND	35	100	1000
Age 70+ Male	3000	2000	4000	1000	ND	ND	ND	35	100	1000
Female	3000	2000	4000	1000	ND	ND	ND	35	100	1000

	vitamin B12	pantothenic acid	biotin	choline	boron	calcium	chromium	copper	fluoride	iodine
RDA or AI 1	(ug)k	(mg)	(ug)	(mg)l	(mg)	(mg)	(ug)	(ug)	(mg)	(ug)
Age 51-70 Male	**2.4**	5*	30*	550*	ND	1000*	30*	**900**	4*	**150**
Female	**2.4**	5*	30*	425*	ND	1000*	20*	**900**	3*	**150**
Age 70+ Male	**2.4**	5*	30*	550*	ND	1200*	30*	**900**	4*	**150**
Female	**2.4**	5*	30*	425*	ND	1200*	20*	**900**	3*	**150**
Tolerable Upper Intake Levels										
Age 51-70 Male	ND	ND	ND	3500	20	2500	ND	10000	10	1100
Female	ND	ND	ND	3500	20	2500	ND	10000	10	1100
Age 70+ Male	ND	ND	ND	3500	20	2500	ND	10000	10	1100
Female	ND	ND	ND	3500	20	2500	ND	10000	10	1100

1 Recommended Dietary Allowances (RDAs) are in **bold type;** Adequate Intakes (AIs) are in ordinary type followed by an asterisk (*). ND - Indicates values not determined. Values in this table were excerpted from the Institute of Medicine, *Dietary Reference Intakes: Applications in Dietary Assessment,* 2000 and *Dietary Reference Intakes for Energy, Carbohydrates, Fiber, Fat, Protein and Amino Acids (Macronutrients)* 2002. Updated Nov. 2010 calcium/vit D recommendations included.

Elements and Macro Nutrients									
	iron	magnesium	manganese	molybdenum	nickel	phosphorus	selenium	vanadium	zinc
RDA or AI 1	(mg)	(mg) m	(mg)	(mg)	(mg)	(mg)	(ug)	(mg) n	(mg)
Age 51-70 Male	**8**	**420**	2.3*	**45**	ND	**700**	**55**	ND	**11**
Female	**8**	**320**	1.8*	**45**	ND	**700**	**55**	ND	**8**
Age 70+ Male	**8**	**420**	2.3*	**45**	ND	**700**	**55**	ND	**11**
Female	**8**	**320**	1.8*	**45**	ND	**700**	**55**	ND	**8**
Tolerable Upper Intake Level									
Age 51-70 Male	45	350	11	2000	1	4000	400	1.8	40
Female	45	350	11	2000	1	4000	400	1.8	40
Age 70+ Male	45	350	11	2000	1	4000	400	1.8	40
Female	45	350	11	2000	1	4000	400	1.8	40
	Energy [2]	Protein [3]	Carbohydrates [4]	Total Fat [5,6]	*n* -6 PUFA	*n* -3 PUFA	Total Fiber	Drinking water, Beverages, Water in Food (L)	
RDA or AI 1	(Kcal)	(g)	(g)	(% Kcal)	(g)	(g)	(g)		
Age 51-70 Male	2204	**56**	**130**		14*	1.6*	30*	3.7*	
Female	1978	**46**	**130**		11*	1.1*	21*	2.7*	
Age 70+ Male	2054	**56**	**130**		14*	1.6*	30*	2.6*	
Female	1873	**46**	**130**		11*	1.1*	21*	2.1*	
AMDR 7		10-35%	45-65%	20-35%	5-10%	0.6-1.2%			

Recommended Dietary Allowances (RDAs) are in **bold type;** Adequate Intakes (AIs) are in ordinary type followed by an asterisk (*). 2 Values are based on Table 522 Estimated Energy Requirements (EER) for Men and Women 30 Years of Age. Used height of 5'7", "low active" physical activity level (PAL) and calculated the median BMI and calorie level for men and women. Caloric values based on age were calculated by subtracting 10 kcal/day for males (from 2504 kcal) and 7 kcal/day for females (from 2188 kcal) for each year of age above 30. For ages 51-70, calculated for 60 years old, for 70+, calculated for 75 years old. 80 year old male calculated to require 2004 kcal; female, 1838 kcal. 3 The RDA for protein equilibrium in adults is a minimum of 0.8 gm/kg body weight for reference body weight. 4 The RDA for carbohydrate is the minimum adequate to maintain brain function in adults. 56 Because % of energy consumed as fat can vary greatly and still meet energy needs, an AMDR is provided in absence of AI, EAR, or RDA for adults. Values for mono- and saturated fats and cholesterol not established as "they have no role in preventing chronic disease, thus not required in the diet."

Acceptable Macronutrient Distribution Ranges (AMDRs) for intakes of carbohydrates, proteins, and fats expressed as % of total calories. Values in this table were excerpted from the Institute of Medicine, *Dietary Reference Intakes: Applications in Dietary Assessment,* 2000 and *Dietary Reference Intakes for Energy, Carbohydrates, Fiber, Fat, Protein and Amino Acids (Macronutrients)* 2002.

Table 1, continued: Dietary Reference Intakes for Older Adults

Electrolytes			
	Potassium	Sodium	Chloride
RDA or AI [1]	(g)	(g)	(g)
Age 51-70 Male	4.7	1.3*	2.0*
Female	4.7	1.3*	2.0*
Age 70+ Male	4.7	1.2*	1.8*
Female	4.7	1.2*	1.8*
Tolerable Upper Intake Levels			
Age 51-70 Male		2.3	3.6
Female		2.3	3.6
Age 70+ Male		2.3	3.6
Female		2.3	3.6

[1] Recommended Dietary Allowances (RDAs) are in **bold type;** Adequate Intakes (AIs) are in ordinary type followed by an asterisk (*). Values in this table were excerpted from the Institute of Medicine, *Dietary Reference Intakes: Water, Potassium, Sodium, Chloride, and Sulfate*, 2004.

Attachment B
Menu Monitoring for DRI/DGA Compliance

Nutrition Program: _____
Nutrition Site: _____
Menu Cycle: _____Week: _____ Service dates: _____

Description of Program:

Number of days meal served per week: (Example: five days per week)_____
Number of meals served per day: (Example: 1 meal per day- Lunch)_____

General Menu Development:

1. Has input from the consumer been included into the planning? Yes _____ No _____
2. Are the menus ethnically or culturally appropriate? Yes _____ No _____
3. Are special events or holidays planned? Yes _____ No _____
4. If modified diets are offered, can the menu be easily modified? Yes _____ No _____
5. Are the menus planned for the season of the year? Yes _____ No _____
6. Is there contrasts in:
    a. Flavor? Yes _____ No _____
    b. Color? Yes _____ No _____
    c. Shape and form?
    d. Temperature? Yes _____ No _____
    e. Texture? Yes _____ No _____
    f. Method and preparation? Yes _____ No _____
    g. Variety? Yes _____ No _____
7. Can the menu be easily served? Yes _____ No _____
8. Can the meals be safely served and held in the appropriate food trays? Yes _____ No _____
9. Can the meal be safely transported with temperature and quality maintained?
    Yes _____ No _____
10. Are the foods in season and most economical?
11. If convenience foods are used, is labor vs costs considered?
12. Is the raw food cost within budget?

Menu review, Approval and Documentation:

1. Has the menu been approved and dated by a Dietitian/Nutritionist? Yes _____ No _____
2. Have appropriate substitutions been approved? Yes _____ No _____
3. Has the date of menu approval Yes _____ No _____
4. Name of Dietitian/Nutritionist: _____
   License/Registration Number: _____

Documentation of Nutritional Adequacy:
Check the method of compliance used:

1. Computer Nutrient Analysis Software _____ (Use Checklist A for monitoring)
2. Texas Model for Menu Planning _____ (Use Checklist B for monitoring)

Standardized Recipes

1. Are there standardized recipes available for the each of the food items on the menu?
    Yes _____ No _____
2. If computer nutrient analysis is used, does the database include the standardized recipes?
    Yes _____ No _____

Checklist A
Computer Nutrient Analysis

1. Name of Computer Nutrient Analysis software program used: _____

2. Does the software program include the USDA National Nutrient Database for Standard Reference? Yes _____ No _____

3. Does the software program include standardized recipes? Yes _____ No _____

4. Does the software program allow for additional data information from vendors and manufacturers? Yes _____ No _____

Week Number: _____

Daily Averaged Target Nutrients per Meal								
		Values per Nutrient Analysis averaged per meal per day						
Nutrient	**Compliance range per meal**	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**
calories (kcal)	600-1000 Kcal							
protein	20 gm or higher							
Target Nutrients Averaged Over the Number of Days of Meal Service per Week								
Nutrient	**Compliance range per meal**	**Values per Nutrient Analysis Averaged per Week**						
fat (% of total Kcal)	30% of total calories or less							
vitamin A	250 ug or higher							
vitamin C	25 mg or higher							
calcium	400 mg or higher							
sodium	1,200 mg or less							
potassium	1,200 mg or higher							
fiber	7 gm or higher							

Checklist B
Texas Model for Menu Planning

	A. Minimum # of servings / day if:			B. Days of meal service						
Food Group Type	**1 meal served**	**2 meals served**	**3 meals served**	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**.Day 7**
Meat/Alternate Number of Equivalents	3 oz	4-6 oz	6-8 oz							
Provide:										
Lower Fat Meat/Meat Alternates										
Fish, frequently as possible										
Limit:										
Processed, smoked, cured, high sodium meats- one serving/week										
Cheese no more than 3 oz. per week										
Fruit/Vegetables- Number of Servings	2-3	6	8							
Provide:										
Vitamin A source 3 x per week										
Vitamin C source daily										
Potassium source daily										
Fiber source daily										
Limit:										
Juice one serving or less/ meal										
Starchy vegetables one serving or less/meal										
Canned vegetable w/salt one serv. or less/ meal										
Grains- Number of Servings	2	4	6							
Provide:										
Minimum of 1/3 of the serv. a whole grain product daily	1	1	2							
Limit:										
Quick breads limited to one serv./ week										
Milk or Milk Alternates- Number of Servings	1	2	3							
Limit:										
Milk products not fortified with vitamin D										
Desserts- Number of Servings	Optional									
Provide:										
Nutrient rich dessert, ie, fruit, whole grains, low-fat milk product with limited sugar and fat										
Limit:										
High sugar/fat desserts (pies, cakes, cookies) once /week if serving one meal daily										
Oils or Fats-Number of Servings	Optional									
	>1	>2	>3							
Limit:										
Total fat to no more than 30% of total calories. Provide only to enhance flavor or presentation.										
Eliminate all sources of trans fat										
Other Foods – Number of Servings	Optional									
Provide:										
To make up additional calories as needed, enhance flavor, maintain temperatures										
Limit:										
Foods high in sodium, high sodium condiments										