

## Using RDAs and the 2005 *Dietary Guidelines for Americans* in Older Americans Act Nutrition Programs

### FREQUENTLY ASKED QUESTIONS

This paper discusses the Dietary Reference Intakes (DRIs), including Recommended Dietary Allowances (RDAs), and the 2005 *Dietary Guidelines for Americans* (DGs) in Older Americans Act (OAA) Nutrition Programs. It is written for the Aging Network including State Units on Aging (SUAs), Indian Tribal Organizations (ITOs), Area Agencies on Aging (AAAs), and local programs.

#### 1. What are the DRIs?

The DRIs are quantitative estimates of nutrient intakes for use in planning and assessing diets for healthy people. Because of the increasingly diverse uses of nutrient values, as well as the varying science knowledge base for establishing nutrient requirements, the Institute of Medicine re-evaluated the 1989 RDAs and developed the DRIs. The DRIs include several nutrient based reference value sets, including:

**1) Estimated Average Requirement (EAR):** *“the average daily nutrient intake level estimated to meet the requirements of half the healthy individuals in a particular life stage and gender group.”* At this intake level, the other half of individuals in a group would not have their needs met, placing them at risk for nutritional deficiency and/or chronic disease. EARs are used to assess the prevalence of nutrient inadequacy in groups of people.

**2) Recommended Dietary Allowance (RDA):** *“the average daily dietary nutrient intake level sufficient to meet the nutrient requirements of nearly all (97 to 98%) healthy individuals in a particular life stage and gender group.”* RDAs are nutrient intake goals for individuals. RDAs are derived from the EAR. If there is insufficient science to establish an Estimated Average Requirement, no RDA can be set.

**3) Adequate Intake (AI):** *“a recommended average daily nutrient intake level based on observed or experimentally determined approximations or estimates of nutrient intake by a groups (or groups) of healthy people that are assumed to be adequate—used when an RDA cannot be determined.”* AIs usually exceed EARs and RDAs. They are nutrient intake goals for individuals.

**4) Tolerable Upper Intake Level (UL):** *“the highest average daily nutrient intake level that is likely to pose no risk of adverse health effects to almost all individuals in the general population. As intake increases above the UL, the potential risk of adverse effects may increase.”* A UL is not a recommended intake level.

**5) Acceptable Macronutrient Distribution Range (AMDR):** *“range of intake for a particular energy source (macronutrients include carbohydrates, proteins, fats) that is associated with reduced risk of chronic disease while providing intakes of essential nutrients. If an individual consumes in excess of the AMDR, there is a potential of increasing the risk of chronic diseases and/or insufficient intakes of essential nutrients.”*

The DRI values for older adults may be found at [www.fiu.edu/~nutreldr/SubjectList/D/DRI\\_RDA.htm](http://www.fiu.edu/~nutreldr/SubjectList/D/DRI_RDA.htm).

## **2. What are the differences between the RDAs established within the DRIs and the 1989 RDAs?**

The RDA component of the DRIs differs from the 1989 RDAs for vitamins A, B<sub>12</sub>, C, and for the minerals, calcium, magnesium and sodium. New studies on vitamins A, B<sub>12</sub>, C, calcium and magnesium show that we need larger amounts than were recommended in 1989 and for sodium smaller amounts. Menus need to be adjusted to meet the new RDAs for these nutrients. The RDAs now also recommend that foods fortified with vitamins D and B<sub>12</sub> be included in meals for older adults (See Question 16).

Since the DRIs also focus on chronic disease risk, the AMDRs recommend percentage ranges of calories for daily macronutrients (protein, fat, carbohydrate). The recommended ranges for adults are 45-65% of calories from carbohydrate, 20-35% of calories from fat, and 5-10% of calories from protein.

## **3. How have the RDAs been updated for older adults?**

For the first time, the RDAs recognize the difference in nutrient needs of “younger” and “older” older adults. RDAs reference standards have now been developed for two age groups: those aged 51 to 70; and those 71 years of age and older.

## **4. Can the 1989 RDAs still be used to plan menus and assess diets?**

No, they do not reflect the latest science about nutrient requirements and chronic disease management needed to promote the health and independence of OAA Nutrition Program participants.

## **5. What are the *Dietary Guidelines for Americans*?**

The *DGs* provide information and advice for choosing a nutritious diet, maintaining a healthy weight, achieving adequate exercise, and keeping foods safe to avoid foodborne illness. They are based on the most current dietary and nutritional information and are updated and jointly published every 5 years by the US Departments of Health and Human Services (HHS) and Agriculture (USDA), as required by the National Nutrition Monitoring and Related Research Act of 1990 (Public Law 101-445). The basic *DG* premises are that nutrient needs should be met primarily through consuming foods and that the *DGs* should provide guidance in obtaining all the nutrients needed for growth and health. Thus, these food-based *DGs* provide science-based advice for people to promote health and reduce risks of major chronic diseases through diet and physical activity. The *DGs* form the basis for federal food, nutrition education and information programs. Per Public Law 101-445, all federal food, nutrition, and health programs are required to promote the current *DGs* and DRIs. The 2005 *Dietary Guidelines for Americans* may be found at [www.healthierus.gov/dietaryguidelines/](http://www.healthierus.gov/dietaryguidelines/).

## **6. What is the relationship between the *DGs* and the DRIs?**

The *DGs* essentially translate the nutrition based recommendations from the DRIs into food and diet recommendations.

## 7. Do the 2005 DGs differ from the 2000 DGs?

Yes. They contain more quantitative information within each of nine focus areas. A comparison chart of 2000 vs. 2005 DGs is available at:

[www.nationaldairycouncil.org/nationaldairycouncil/nutrition/guidelines/DGA%20comparison%20chart%20Final.pdf](http://www.nationaldairycouncil.org/nationaldairycouncil/nutrition/guidelines/DGA%20comparison%20chart%20Final.pdf)

The 2005 DGs also include specific key recommendations for older adults. A summary of recommendations for older adults is available at:

[www.fiu.edu/~nutreldr/Dietary%20Guidelines%20for%20Older%20Adults%202005.htm](http://www.fiu.edu/~nutreldr/Dietary%20Guidelines%20for%20Older%20Adults%202005.htm)

Both DGs recognize the importance of healthy weight, physical activity and food safety. They also emphasize adequate nutrient intakes, but the 2005 DGs also focus on balancing the calories taken in as food with the calories expended each day. Previously, the DG food group recommendations were more general. The 2005 DGs provide flexibility in meeting the food group recommendations by providing two examples of eating patterns that exemplify the DGs, the DASH Diet and the USDA Food Guide. The following tables are excerpts from DG Appendices A-1 and A-2, pages 51-54.

### **DASH Diet**

| <b>Food Group</b>                      | <b>1,600 calories</b> | <b>2,000 calories</b> |
|--|-----------------------|-----------------------|
| <b>Grains</b>                          | 6 servings            | 7-8 servings          |
| <b>Vegetables</b>                      | 3-4 servings          | 4-5 servings          |
| <b>Fruits</b>                          | 4 servings            | 4-5 servings          |
| <b>Low-fat or fat-free dairy foods</b> | 2-3 servings          | 2-3 servings          |
| <b>Meat, poultry and fish</b>          | 1-2 servings          | 2 or less servings    |
| <b>Seeds, nuts, legumes</b>            | 3-4 servings          | 4-5 servings          |
| <b>Fats and oils</b>                   | 2 servings/week       | 2-3 servings          |
| <b>Sweets</b>                          | 0 servings            | 5 servings/week       |

### **USDA Food Guide**

| <b>Food Group</b>                      | <b>1,600 calories</b> | <b>2,000 calories</b> |
|--|-----------------------|-----------------------|
| <b>Fruits</b>                          | 1.5 cup               | 2 cups                |
| <b>Vegetables</b>                      | 1.5 cup               | 2.5 cups              |
| <b>Grains</b>                          | 5 oz                  | 6 oz                  |
| <b>Lean meat and beans</b>             | 5 oz                  | 5.5 oz                |
| <b>Milk</b>                            | 3 cups                | 3 cups                |
| <b>Oils</b>                            | 22 g                  | 27 g                  |
| <b>Discretionary calorie allowance</b> | 132                   | 267                   |

## 8. What are the nutrition requirements of the Older Americans Act?

Title III C: SEC. 339 (2)(A)(ii) State ... shall ensure that the project provides to each participating older individual, meals that provide ... a minimum of 33 1/3% of the daily RDA ... if one meal per day, ... 66 2/3% RDA if ... 2 meals per day, and 100% RDA for 3 meals per day.

Title VI: SEC. 614 (a) (8) ... nutrition services will be delivered ... substantially in compliance with the provisions of part C of Title III.

## **9. Who is responsible for establishing policies and procedures to implement the OAA nutrition requirements?**

Each SUA or ITO and some AAAs are responsible for establishing policies and procedures to implement the OAA nutrient requirements to best meet the needs of their specific populations.

## **10. What is the current guidance from AoA regarding use of the DRIs and DGs?**

As required by the OAA, OAA Nutrition Program meals should comply with the 2005 *DGs* and meet a minimum of 33 1/3% of the most recent RDAs for nutrients if one meal is provided; 66 2/3% RDAs if two meals per day are provided; and 100% of the RDA if three meals per day are provided. Averaging some nutrient RDAs in meals over a week may be appropriate, depending upon the health and other characteristics of local program participants.

## **11. Why are there nutrition standards for OAA Nutrition Program Meals?**

Older adults need nutritious, tasty, culturally appropriate meals for successful aging. The DRIs help assure that nutrient needs are met and the *DGs* help assure that the most nourishing meals are provided to participants. SUAs, ITOs, AAAs and local programs are uniquely positioned to impact the health and functional independence of older adults by providing nutrient dense meals, as well as individualized nutrition services including nutrition screening, assessment, education and counseling. OAA Nutrition Programs largely serve vulnerable individuals at high nutritional risk including those who are low income, minority, female, homebound, and underserved including rural residents. For many, the meal is their primary daily source of food and nutrition. The OAA meal provides more than half of the daily food intake for 62% of the home delivered meal recipients and 58% of congregate meal participants.

OAA Nutrition Programs can use the RDAs and *DGs* as part of overall program review. The review could include types of nutrition services offered including all aspects of the meal service; provision of nutrition screening, education, counseling; how such services help participants modify their lifestyles to reduce health risk and improve functionality. OAA Nutrition Programs will continue to be evaluated as a part of the Performance Outcomes Measures Project (POMP), National Survey of Title III Participants, and the upcoming National Evaluation of OAA Nutrition Programs.

Nutrition makes a difference! National Survey results show that dietary intake of congregate participants and home delivered meal recipients is as good or better than that of the general population of adults age 60 and older. Highlights are available at [www.grpa.net](http://www.grpa.net). Meals that meet the RDAs and *DGs* will more likely result in better health outcomes. Such evidence can help win support for program expansion/continuation from funders, administrators, and policy makers.

As OAA Nutrition Programs fulfill the intent of the Older Americans Act, they are an integral part of comprehensive, coordinated home and community based services. The RDAs fit AoA's strategic initiatives because they promote health and reduce risk of degenerative chronic diseases. In other words, the RDAs and *DGs*, based on the latest

scientific evidence, have great potential to increase the number of older persons who stay healthy, active and independent in the community.

## **12. How does an SUA, ITO or AAA address the new RDAs and DGs?**

SUAs, ITOs and some AAAs establish Policies and Procedures as they relate to meeting new nutrition requirements as required by the OAA. A Registered Dietitian (RD) is essential when revising such Policies and Procedures because of the complexities involved in incorporating the newest DRIs and *DGs*. For example, if there is a difference between an RDA for older females and males, the higher RDA value is used.

Policies and Procedures should be designed to guide implementation at the local level. They often include guidance on nutrient levels, allowable exceptions, nutrient averaging over a specified time, use of computer analysis, meal patterns, and other ways to increase the local flexibility in food and nutrition services.

As technology has evolved, many Policies and Procedures require computer analysis of meals or menu plans and may specify the software. Some SUAs, ITOs, and AAAs have successfully developed computer assisted menu plans to best meet the needs of the population served. This is often accomplished using cycle menus that can accommodate seasonal foods and local specialties.

If SUAs, ITOs and some AAAs find that computer analysis is not a viable option, a new meal pattern would require an additional serving of bread and an additional serving of fruit or vegetable. Without these additional servings, there is no assurance that the meal meets OAA nutrient requirements. In addition to the precision of computer analysis, other benefits include meal flexibility and possibly lower food cost.

The 2002 Issue Panel Final Report concluded: "Regarding approved meal patterns, if a standard meal pattern is developed that delineates specific food servings using the *DGs*, it would have to include additional servings of fruits, vegetables and whole grains such as the example meal pattern provided in Part 2 of this report. In addition, any meal pattern needs evaluation using computer analysis before being used to assure that it meets requirements." Available at:

[www.fiu.edu/~nutreldr/Center\\_Initiatives/Issue\\_Panel\\_Feb\\_2002/IssuePanelReport.final.pdf](http://www.fiu.edu/~nutreldr/Center_Initiatives/Issue_Panel_Feb_2002/IssuePanelReport.final.pdf)

### **How does a local nutrition program modify menus to meet the RDAs and *DGs*?**

Local programs should first review their SUA or AAA Policies and Procedures and then talk with the state unit nutritionist/administrator about plans to update services. ITOs should review and update their Policies and Procedures. Then all program leadership (Board, advisory council) and paid/volunteer staff including the Registered Dietitian (RD) should be brought together to assist in reviewing and modifying menus. Full participation is critical when discussing the rationale for improving the meals and nutrition services to meet the RDAs and *DGs*.

Next, policies, procedures, guidelines and quality assurance standards are reviewed. They include:

**Menus** – Evaluate the nutritional adequacy relative to the RDAs and *DGs* to determine what changes are needed. Consider meal costs, cultural appropriateness, special dietary needs, and food service catering/vending contracts. Some suggestions:

- Use cycle menus to help control costs and standardize purchasing, while incorporating seasonal selections such as local produce and special foods;
- Develop and use standardized bid specifications to get the value you are paying for; exacting standards in foodservice purchasing guarantee food quality and safety at competitive cost;
- Offer choice among menu items, for example, a lower or higher calorie entrée as part of a weight loss or weight gain program; and
- Plan menus that include foods that are not hazardous and will not spoil so participants can take them home to eat later.

**Nutrition screening, education and counseling** - Evaluate the purpose, provision and outcomes from current food and nutrition services to determine new opportunities for:

- Consumer education outreach and materials; and
- Health promotion/disease prevention programs and materials.

**Program and participant outcomes** - Evaluate the process and measurement tools used to monitor, assess and report nutrition-related outcomes.

As a group, decide program priorities and the timeframe including what to do first. Some SUAs and ITOs have updated their meal standards. These provide opportunities for local programs to market more nutrient dense meals that promote health. Many have added new program offerings locally that encourage physical activity, such as the AoA *You Can! Eat Better & Move More*. Integrated programs of nutrition and activity help enable participants to take better charge of their health and prolong their independence.

### **13. How should local Nutrition Programs assure that meals served meet the RDAs and 2005 *DGs*?**

SUAs, ITOs, and some AAAs establish the Policies and Procedure that assure that local programs meet the requirements of the OAA. Some Policies and Procedures require computer analysis and may specify the nutrition software to use. Computerized nutrition analysis helps assure that meals are nutritionally adequate and nutrition services are evidence-based. RDs can computer analyze meals to assure they meet the RDAs and *DGs*. Some SUAs, ITOs, and AAAs have successfully developed computer assisted menu plans that meets the needs of their clients. It is often done as a cycle menu to accommodate seasonal foods and local specialties.

In situations where computer analysis is not a viable option, the new meal pattern requires an additional serving of bread and fruit and/or vegetables. This helps assure that the meal meets the new RDAs and *DGs*.

### **14. Should some nutrients be targeted?**

The Menu Pattern used by many OAA Nutrition Programs targeted nutrients that were believed to be low in the diets of older adults in 1972. Those nutrients included calcium,

iron, vitamin A, vitamin C, thiamine, and riboflavin. Since 1972, nutrition knowledge has significantly increased and changed. This increased knowledge is reflected in the DRIs and DGs which identify different nutrients to be targeted. Criteria for determining which nutrients to target in meals are:

- They are measures of diet quality;
- They are commonly deficient or excessive in diets of older adults;
- They are important for health promotion, disease prevention and chronic disease management; and/or
- They are water soluble nutrients that cannot be stored in the body and therefore a daily source is needed.

There are helpful lists of food sources of selected nutrients in DG Appendices B1-9, pages 56-65. Nutrient tables include potassium, vitamin E, iron, calcium (non-dairy and dairy), vitamin A, magnesium, and fiber.

**15. Since the DGs recommend consuming extra vitamin D and vitamin B<sub>12</sub> from vitamin D or vitamin B<sub>12</sub>-fortified foods and/or supplements, why can't OAA Nutrition Programs provide dietary supplements?**

OAA Nutrition Programs are not permitted by law to provide dietary supplements even though some older adults may need a vitamin D and/or B<sub>12</sub> supplement according to the RDAs and DGs. Dietary supplements for D and B<sub>12</sub> can be encouraged through nutrition education and counseling in OAA Nutrition Programs. Nutrition Programs will likely need to use fortified foods to meet the vitamins D and B<sub>12</sub> recommendations.

**16. Where do favorite foods fit?**

Careful menu planning is the key to ensuring that both culturally popular and nutrient dense foods are used to meet nutrient requirements. The 2005 DGs provide two examples of eating patterns, the DASH Diet and the USDA Food Guide. (See also Question #7.) Both are flexible to permit food choices based on individual and cultural food preferences, cost, and availability. Both can accommodate varied types of cuisines and special needs due to, for example, food allergies and special diets. Meals can also be planned so that non-perishable foods can be taken home and eaten later.

**17. Is more information available online?**

**DRIs:** (All DRI books are downloadable free.)

Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes: Applications in Dietary Assessment*. Washington, DC: National Academy Press; 2000. Available at: [www.nap.edu/books/0309071836/html/](http://www.nap.edu/books/0309071836/html/).

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Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline*. Washington, DC: National Academy Press; 2000. Available at: [www.nap.edu/books/0309065542/html/index.html](http://www.nap.edu/books/0309065542/html/index.html).

Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc*. Washington, DC: National Academy Press; 2001. Available at: [www.nap.edu/books/0309072794/html/](http://www.nap.edu/books/0309072794/html/) .

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Institute of Medicine. DRI Table for Older Adults, as compiled by the National Resource Center on Nutrition, Physical Activity & Aging. Available at: [www.fiu.edu/~nutreldr](http://www.fiu.edu/~nutreldr).

### **Dietary Guidelines for Americans**

US Departments of Agriculture and Health and Human Services. *Dietary Guidelines for Americans 2000*. Available at: [www.health.gov/dietaryguidelines/dga2000/document/frontcover.htm](http://www.health.gov/dietaryguidelines/dga2000/document/frontcover.htm).

US Departments of Agriculture and Health and Human Services. *Dietary Guidelines Advisory Committee Report*. Available at: [www.health.gov/dietaryguidelines/dga2005/report/](http://www.health.gov/dietaryguidelines/dga2005/report/).

US Departments of Agriculture and Health and Human Services. *Dietary Guidelines for Americans 2005*. Available at: [www.healthierus.gov/dietaryguidelines/](http://www.healthierus.gov/dietaryguidelines/).

US Departments of Agriculture and Health and Human Services. My Pyramid.org Homepage. 2005. Available at: [www.mypyramid.gov/](http://www.mypyramid.gov/).

### **Other Resources**

Fanelli-Kuczmarzski M, Weddle DO. Position of the American Dietetic Association: Nutrition across the spectrum of aging. *J Am Diet Assoc*. 2005;405:616-33. Available at: [www.eatright.org/Member/PolicyInitiatives/index\\_21992.cfm](http://www.eatright.org/Member/PolicyInitiatives/index_21992.cfm).

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Wellman NS, Johnson MA, Guest eds. Food and Nutrition for Healthier Aging, *Generations*. 2004;28(3)Fall. Available at [www.generationsjournal.org/generations/gen29-1/home.cfm](http://www.generationsjournal.org/generations/gen29-1/home.cfm).

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Note: Full text available free to ADA members.