The ongoing increase in the number of older adults worldwide makes addressing their nutritional needs more challenging. Aging is associated with numerous changes and factors that affect the lives of older adults. The nutritional status of older adults is an important determinant of quality of life, morbidity, and mortality. Although good nutrition and healthy lifestyle habits must start early in life to achieve wellness later in life, dietary modifications are often necessary to adjust to the physical and metabolic changes that occur with age. Appropriate and timely interventions are essential for enabling older adults to achieve these goals.

INTRODUCTION

Older adults constitute the fastest-growing population segment worldwide. In the United States, the population segment of those aged 65 and older reached 43.1 million in 2012, and it is projected to increase to 79.7 million by 2040.1 The process of aging is characterized by diminished functionality of organ systems, changes in body composition, and weakened homeostatic controls; all of which are influenced by genetic and environmental factors. Aging is also associated with physiological and economical changes that compromise nutritional status. Additionally, the aging population is diverse, exhibiting large ranges in age, activity level, fitness, dependency, and frailty. While today’s older adults have an increased life expectancy of approximately 30 years relative to that of previous generations,2 many continue to be affected by chronic health and medical conditions such as undernutrition, heart disease, hypertension, and dementia.3 These conditions all impact the micronutrient status of older adults, resulting in deficiencies of vitamins and minerals.4 The age-related changes in adults’ nutritional needs are well documented.5,6 The food intake of older adults tends to decrease with advancing age to compensate for the diminished energy needs associated with lower energy expended in physical activity and basal metabolic rate.7 The need for micronutrients, however, remains constant or increases. Thus, it is particularly challenging for older adults to maintain optimal nutritional status, health, and well-being.

Access to food is a basic human right and a necessity. However, 8.1% of households with older adults are reported to have food insecurity.8 Micronutrient deficiencies continue to be a major health problem for older adults in many developing countries lacking health and nutrition supplementation programs available to Americans. Adequate access and availability of nutrient-dense foods, paired with a varied diet, is essential for older adults to lead healthy lives. In fact, a general consensus already exists in support of the concept that a healthy dietary pattern, including foods that provide micronutrients in adequate amounts, supports the health and survival of older adults.

In light of the importance of providing adequate nutrition care to older adults, it is the position of the Academy of Nutrition and Dietetics that all Americans aged 60 years and older receive appropriate nutrition care; have access to coordinated, comprehensive food and nutrition services; and receive the benefits of ongoing research to identify the most-effective food and nutrition programs, interventions, and therapies.9

Micronutrients of importance to older adults, their requirements, deficiencies, sources, and nutritional status in older adults has been described in the first article of this two-part series: “Micronutrients and The Older Adult, Part 1: Micronutrients of Importance to Older Adults.” This first article of the series ran in Issue 4: 2013-2014 of Women’s Health Report, which you can access through the archived newsletter section of the WH DPG website.

STRATEGIES TO REDUCE THE INCIDENCE OF MICRONUTRIENT DEFICIENCIES

The numerous changes associated with the normal aging process increase nutritional risks for older adults. An older adult’s...
Welcome to the fall issue of *Women's Health Report*. Summer 2014 flew by for my family and me as we welcomed our first child in July. We are still adjusting to life as a family of three, but are completely in love with our son. Part of me wishes time would stand still so that we’re better able to enjoy our time with him as an infant, but, alas, he is growing quickly and thriving on mommy’s milk. He will attend FNCE® in Atlanta with me this year, so hopefully I will have a chance to introduce you to him!

Speaking of FNCE®, we are very excited about our Women’s Health DPG Spotlight Session *Behavioral and Nutrition Strategies for Women’s Long-Term Weight Loss Maintenance*. Our DPG focused last year’s session on reproductive nutrition, so this year we made a concerted effort to focus on the opposite end of the life cycle. The session will focus on evidence-based methods to assist in designing successful weight loss maintenance strategies for middle-aged and older women. If you plan to attend the conference, please plan to join us for this session. You will garner knowledge related to this valuable topic, and have the opportunity to recognize the hard work of your colleagues as we announce the Women’s Health DPG award recipients. We look forward to seeing you there!

This issue of our newsletter also provides more focus on aging women with Part 2 of *Micronutrients in Older Adults*. Once again we enjoyed working with the Healthy Aging DPG in the development of this article. Vijaya Jain prepared a superb follow-up piece that we know you will enjoy. This article really strikes home with me as my family moved an elderly family member into assisted living just this weekend. Proper nutrition and physical activity have always been priorities in her life. It is hard to see her aging, but her healthy lifestyle has allowed her to live a long and fruitful life. At 95 years old, she is still the epitome of health!

I hope that you have wonderful fall season and I look forward to meeting you at FNCE®. And remember to stop by our Women’s Health DPG Showcase Booth on Monday, October 20, 2014.
Micronutrients and the Older Adult, Part 2

nutritional needs are determined by multiple factors, including specific health problems and related organ-system compromise, activity level, energy expenditure, and caloric requirements; the ability to access, prepare, ingest and digest foods; and personal food preferences. Strategies to reduce the impact of these age-related changes are discussed below.

- **Sarcopenia**, a reduction in muscle mass and function, not only results in decreased functional ability and strength,10,11 but also has an impact on a person's ability to chew food properly (particularly in frail older people), thus limiting their food choices and contributing to an inadequate and poor-quality dietary intake.12 While a decreased dietary intake of protein leading to sarcopenia is well documented, literature examining the influence of non-protein nutrients on sarcopenia is less common. Carotenoids are reported to have a possible protective effect against oxidative stress, and subsequently sarcopenia.13 In Canadian adults aged 60 to 75 years, the odds for sarcopenia were greater in those who reported failing to meet recommended dietary allowances for the antioxidants selenium and vitamins A, C, and E.14 In the Women's Health and Aging Study (WHAS) of nearly 700 community-dwelling women aged 70 to 79 years, a high plasma carotenoid and α-tocopherol (a form of vitamin E) status were associated with reduced odds for low muscle strength15 and frailty.16 Diets high in fruits and vegetables may be beneficial due to increased potassium intake, which may reduce metabolic acidosis. Magnesium may also be preventative in limiting skeletal muscle decline by contributing to adenosine triphosphate and cell structure. Additionally, vitamin D may play an important role in the maintenance of muscle function for older adults.10

- **Increasing levels of chronic illness and disease** can lead to and exacerbate poor nutritional status. The presence of chronic illness and disability increases with age. Most older adults have one or more chronic diseases, with 85% having at least one chronic disease affecting the absorption, transport, metabolism, and excretion of nutrients.4,17 For many older adults this will result in a reduced ability to complete normal activities of daily living, and it is more of a problem particularly for those living alone or with a disabled or ill partner. Promoting a healthy diet and lifestyle among older adults is the optimal approach for the prevention and incidence reduction of chronic diseases.

- **Mental health problems** are common in the aging population. They include depression, anxiety, dementia, cognitive decline, and alcohol/substance abuse. Some of the symptoms (such as apathy, anorexia, and refusal of food and fluid) can cause a deteriorated nutritional status and micronutrient deficiencies in older adults. Identifying mental health problems and helping older adults get connected with necessary medical and counseling services are effective strategies.

- **Anorexia of aging**, defined as loss of appetite and/or reduced food intake, affects a significant number of older adults. It is more prevalent among frail elderly individuals, especially among nursing-home residents and hospitalized patients,18 increasing the risk for undernutrition and micronutrient deficiencies. The main strategy is to optimize nutritional status by including small, frequent, nutrient-dense meals. Oral nutrition supplements are a good intervention for older adults who are unable to obtain their nutrient needs with meals and snacks, and the use of megestrol acetate (an appetite stimulant that may promote weight gain) may also be helpful.4

- **Changes in smell and taste** occur as a natural part of the aging process, but age-related loss in taste sensitivity is most common in older adults on prescribed medications.19 Changes in flavor perception begin to diminish around 50 years of age, with the sense of taste continuing to decline with the passage of time. In addition, olfaction (the sense of smell) declines with age, with more than 70% of adults over the age of 80 years having a major olfactory impairment.20 Some of the reasons for decline in olfaction are gradual losses of the nasal nerve cells that detect aromas, hormonal changes, a decline in nerve signals to the brain, and reduced mucous production in the nose.21 Losing the sense of smell may impact a person's enjoyment of food, leading to a reduced food intake and therefore a decreased nutrient intake. Taste disorders (including loss of taste) are more common among older adults with chronic conditions who are consequently taking multiple medications; this polypharmacy often leads to loss of appetite, changes in food preferences, weight loss, and malnutrition.22,23 A declined ability to detect sour taste can lead to a failure to recognize unripe or spoiled foods. Adding appropriate spices and herbs can enhance a food's flavor, increasing its appeal to an older palate. Similarly, improving the visual presentation by incorporating bright colors, a variety of shapes, and suitable textures can help increase intake as well.

- **Impaired vision** can result from age-related eye changes or from diseases that affect the eyes, such as cataracts, glaucoma, diabetes, or macular degeneration. Loss of visual acuity may lead to less physical activity or a fear of cooking, especially of using the stove. Inability to read food prices, nutrition labels, or recipes may affect the ability to grocery shop, prepare food, and eat. Research has concluded that people with a higher intake of green, leafy vegetables and foods that contain antioxidants (including carotenoids but not vitamin E) are associated with a reduced risk for macular degeneration.24 The National Eye Institute's Age-Related Eye Disease Study (AREDS) found that taking a specific high-dose formulation of antioxidants and zinc (beta-carotene; vitamins A, C, and E; copper; and zinc) significantly reduces the risk of advanced age-related macular degeneration and its associated vision loss.25 However, later studies reported inconclusive findings. Older adults who need assistance with performing daily activities such as cooking, shopping, and reading instructions must be provided with the necessary help by family members and caregivers, and/or get connected with community support services.

- **Oral health problems** may limit food choices, or from diseases that affect the teeth, gums, or jawbones. Oral health problems can negatively affect the nutritional and health status of the aging population. Older adults who have missing teeth, gum problems, or wear dentures usually avoid eating foods such as raw vegetables, whole fruits, and meats. Foods most commonly avoided by older adults are whole apples, whole nuts, raw carrots, and grilled or fried meats.26 A decrease in dietary intake due to oral health problems reduces the variety of foods available, which can lead to weight loss and deficiencies of essential micronutrients in older adults.27 Modifying the texture and consistency of foods by chopping, grinding, pureeing, or blending foods may help older adults who have chewing or swallowing problems. These modifications must provide the same nutritive value of solid foods and can be just

Continued on page 4
as tasty and appealing. Foods modified into a thickened liquid are often required for older adults with dysphagia. Older adults and their family members must seek the guidance and advice of a registered dietitian nutritionist, speech therapist (for patients with dysphagia), and/or an occupational therapist for the planning and preparation of special meals and foods.

Table 1: Micronutrients impacted by changes during aging process

<table>
<thead>
<tr>
<th>Changes in Body Physiology and Functions</th>
<th>Impact on Micronutrient Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased bone density</td>
<td>Increased need for calcium, vitamin D</td>
</tr>
<tr>
<td>Decreased immune function</td>
<td>Increased need for vitamin B6, vitamin E, zinc</td>
</tr>
<tr>
<td>Increased gastric pH</td>
<td>Increased need for vitamin B12, folic acid, calcium, iron, zinc</td>
</tr>
<tr>
<td>Decreased calcium pH</td>
<td>Increased need for calcium, vitamin D</td>
</tr>
<tr>
<td>Decreased hepatic uptake of retinol</td>
<td>Decreased need for vitamin A</td>
</tr>
<tr>
<td>Increased levels of homocysteine</td>
<td>Increased need for folate, vitamin B6, vitamin B12</td>
</tr>
<tr>
<td>Increased oxidative stress</td>
<td>Increased need for vitamin C, beta-carotene, vitamin E</td>
</tr>
</tbody>
</table>

INTERVENTIONS TO REDUCE MICRONUTRIENT DEFICIENCIES

Older adults can face many socioeconomic barriers to meeting their nutritional needs, including:

- **Social and physical factors** affect food choices and eating patterns. They include cultural and religious beliefs, level of education, budgeting skills, nutritional knowledge, food preferences, cooking skills and facilities, social situations, whether living alone or with family, and immobility. These factors should be considered when planning suitable nutrition interventions to improve dietary intake and overall nutritional status. Enabling older adults to participate in meal programs such as Meals on Wheels not only improves their food and nutrient intakes, but also provides an opportunity to promote health and well-being.

- **The effect of income** on nutritional status has been reported in several studies. Lower-income older adults were reported to have reduced intakes of several micronutrients, including vitamin C, vitamin B6, folate, iron, and zinc.28,29 The third National Health and Nutrition Examination Survey (NHANES III) found that poverty has a very significant impact on micronutrient intake and nutrition status. Seventy-nine percent of those estimated to have inadequate food consumption lived below the poverty line.30 Helping older adults enroll in nutrition assistance programs (to be discussed in detail later) such as Meals on Wheels, senior nutrition programs, the Supplemental Nutrition Assistance Program (SNAP), farmers’ market programs, and other services that help bridge the nutrition gap is very important.

- **Food insecurity** has a significant impact on the nutritional status of older adults in the United States. It is the position of the Academy of Nutrition and Dietetics that systematic and sustained action is needed to achieve food and nutrition security for all Americans.31 Older adults experiencing food insecurity have lower intakes of micronutrients and calories in spite of age-related, normal reductions in caloric needs; more health problems; and functional limitations related to loss of independence.32 Data analyzed from NHANES III and the Nutrition Survey of the Elderly in New York State in 1994 showed that food-insecure older adults had significantly lower intakes of macronutrients, and the micronutrients niacin, riboflavin, vitamins B6 and B12, magnesium, iron, and zinc.33,34 Older adults who are identified as being food-insecure must be referred to nutrition assistance programs and other support services to help reduce malnutrition and micronutrient deficiencies.

- **Impact of medications** on food intake and nutritional status is common among older adults, as they are more likely to be taking more prescription medications than are younger adults. Polypharmacy, unnecessary and/or excessive use of both prescribed and over-the-counter medications, is a common problem among older adults. Over-the-counter and prescribed medications can potentially cause side effects that can impact dietary intake and the nutrient status of older adults. These side effects include altered sense of taste and smell, fatigue, diarrhea, and other symptoms. A number of medications also interact with food and result in a reduced absorption of nutrients, and can have an adverse effect on the nutritional status of older adults. Care providers of older adults must be aware of these interactions and monitor the intake of medications by older adults. Another critical part of intervention for older adults is frequent, thorough reviews of all medications with discontinuation of nonessential therapies.

DIETARY PATTERNS AND MICRONUTRIENT INTAKE OF OLDER ADULTS

Numerous studies have been conducted to determine the dietary patterns and nutrient intakes of older adults. Data from 1999–2000 intakes of many micronutrients by older adults in the United States suggest that older Americans may be deficient, either marginally or more severely, in a few micronutrients due to low intake.36 Older Americans who take multivitamin and mineral supplements have considerably higher circulating levels of practically all micronutrients compared to non-users.37 Older adults from low-income households eating convenient, nutrient-sparse foods have higher energy and lower nutrient intakes.38 Several studies indicate that although older adults consume more fruits and vegetables (excellent sources of vitamins and minerals) than do younger adults, only 21–26% of men and 29–37% of women ages 65 and over actually meet the recommended number of servings per day.40–42 Healthy lifestyle factors, such as being physically active, not smoking, and using vitamin/mineral supplements is strongly associated with more frequent consumption of fruits and vegetables.43 The intake data of older-adult subjects in southern California and Oklahoma suggest that marginal deficiencies in intakes of micronutrients relate to location (such as midlands vs. coastal southern California) as well as to age.36 They reported deficits for folate, vitamin A, vitamin E, potassium, and calcium; and excessive intakes of sodium and phosphorus among older adults in both southern California and Oklahoma. The addition of breakfast to traditional home-delivered meal services to home-bound, frail elderly participants was shown to significantly increase

Continued on page 5
the intake of the micronutrients potassium, calcium, iron, magnesium, and zinc; additionally, there was a tendency toward a greater consumption of vitamins A, B₆, B₁₂, and D.⁶₄

**OTHER INTERVENTIONS TO PREVENT MICRONUTRIENT DEPLETION IN OLDER ADULTS**

Many older adults do not obtain sufficient amounts of micronutrients.⁴,⁴⁵ Nationwide surveys have shown that a large percentage of older adults do not meet their nutrient needs from their daily food intakes and need other options that help bridge the nutrition gap.⁴⁶ Multinutrient supplements and/or oral supplements are often necessary to improve the nutritional status of older adults, especially during illness or after surgery.

**Oral Nutrition Supplements**

Older adults unable to obtain adequate nutrition from consuming a regular diet often need commercially prepared oral supplements (liquid, pudding, and/or powder) to bridge the nutrient gap. Oral supplements are usually formulated to provide an array of micronutrients along with the macronutrients and calories to meet the nutritional needs of older adults experiencing or recovering from illness, surgery, unintentional weight loss, cancer, and other medical conditions. A variety of supplements are available, including those formulated for specific conditions such as chronic obstructive pulmonary disease, diabetes, renal disease, and other medical conditions. A liquid nutrition supplement can be thin, moderately thick (a milkshake), or very thick (a pudding). Powdered supplements are designed to be mixed into liquid or solid foods such as soups, juices, and puddings. These supplements are not designed to replace meals; they should be included in between meals and as snacks to increase nutrient intake, improve dietary compliance, and avoid satiety that would result in poor intake during mealtimes.

**Vitamin C**

Many older adults take a vitamin C supplement in conjunction with a daily multivitamin supplement in the belief that the additional dose of vitamin C will prevent colds and reduce the risk of infections. The additional vitamin C supplementation has not been shown to be effective in clinical trials.⁴⁹,⁵⁰ It is recommended that older adults include foods rich in vitamin C to best meet their requirements for this vitamin. Foods rich in vitamin C are a superior choice over vitamin C supplements, as whole foods provide additional nutrients, calories, and possibly fiber. Caretakers and health professionals should encourage older adults to include several servings of fruits and vegetables in their daily diet to meet their daily vitamin C needs.

**Vitamin B₁₂**

Vitamin B₁₂ deficiency affects 30% of older adults over 60 years of age.⁵¹ Many older adults are unable to consume animal proteins (the main source of dietary B₁₂) because of poor dentition, the high cost of animal protein foods, or dysphagia. Since the synthetic vitamin B₁₂ added to fortified foods is more easily absorbed and may be the best source of this micronutrient, both the Institute of Medicine and the National Institutes of Health Office of Dietary Supplements recommend that older adults be encouraged to consume B₁₂-fortified foods.⁵²,⁵³

**Folic Acid**

Folic acid (also known as folate or folacin) is rarely found naturally in foods and is typically used in vitamin supplements and fortified foods. Folate levels among older adults have improved since 1998, when the Food and Drug Administration (FDA) mandated folate fortification of breakfast cereals and other grain products. Folate and vitamin B₁₂ status should be assessed in older adults with or suspected of having depression, and also among those using medications such as histamine-2 blockers, proton-pump inhibitors, and antibiotics.⁴ Multivitamin/mineral supplementation can improve B-vitamin status and reduce plasma homocysteine concentration in older adults already consuming a folate-fortified diet.⁵²

**Vitamin D**

Vitamin D insufficiency is now widely recognized as a global epidemic, especially among older adults. Given the current increase in recommendations to 20 micrograms per day, especially for older adults over age 70, dietary sources of vitamin D alone may not be adequate; supplements providing vitamin D and vitamin D₃ are recommended.⁴ Encouraging older adults to increase physical activity and exposure to sunlight is also important. Vitamin D toxicity, which occurs from excessive consumption of supplements, results in hypercalcemia, loss of bone mass, and loss of appetite. (Part 1 of this two-part series discusses vitamin D in detail.) Caretakers must monitor their patients’ intakes of vitamin D supplements and have their vitamin D levels checked regularly.

**Calcium**

An older adult’s calcium bioavailability typically decreases with age. Vitamin D absorption decreases as part of the aging process, and a reduced production of skin cholecalciferol means that the skin cannot produce as much vitamin D from sunlight exposure. For optimal health, the Institute of Medicine’s recommended cholecalciferol
intake for adults 51 years of age and older is 1,200 mg/day, with the maximal dose of elemental calcium not to exceed 500 mg at any time.\textsuperscript{53} The most effective form of calcium is calcium carbonate, as it is well absorbed and tolerated by most people when consumed with a meal. However, calcium citrate is the preferred form to be used for older adults with intestinal problems, such as achlorhydria or inflammatory bowel disease. Supplementation of both calcium and vitamin D can help reduce fractures in older adults. Adequate nutrition and regular participation in physical activity are important interventional factors in achieving and maintaining optimal bone mass.

**Magnesium**

Magnesium along with calcium and vitamin D is essential for maintaining bone health. A few studies have assessed the impact of supplemental magnesium on bone metabolism. Improvements in bone mineral density were noted in osteoporotic postmenopausal women who received magnesium supplementation.\textsuperscript{54,55}

**Sodium**

Sodium is usually consumed in excess of what is needed by older adults. Reduction of dietary sodium reduces hypertension and the risk of cardiovascular disease, congestive heart failure, and kidney disease. Salt added at the table and in cooking provides only a small proportion of the total sodium intake. Most dietary sodium actually comes from the consumption of restaurant foods and processed foods, since salt is added during food processing. More than 40 percent of sodium intake comes from the following ten types of foods: breads and rolls, cold cuts and cured meats, pizza, fresh and processed poultry, soups, sandwiches such as cheeseburgers, cheese, pasta mixed dishes (not including macaroni and cheese), mixed-meat dishes such as meatloaf with tomato sauce, and snacks such as chips, pretzels and popcorn.\textsuperscript{56} This is a concern since the food choices for many older adults include soft and easy-to-eat foods such as rolls and soups. Additionally, the Dietary Approaches to Stop Hypertension (the DASH diet) is a healthy alternate for many older adults who need to reduce their blood pressure, as it is rich in potassium, magnesium, and calcium, with a few other restrictions.\textsuperscript{57} However, low-sodium diets are often not well tolerated by older adults, especially by frail elderly adults, and may lead to hyponatremia, loss of appetite, and confusion. Decreases in dietary intakes resulting from the intake of a low-sodium diet may lead to deteriorated nutritional status, weight loss, and other medical complications. The 2002 position paper of the Academy of Nutrition and Dietetics states that the quality of life and nutrition status of older residents in long-term-care facilities may be enhanced by a liberalized diet.\textsuperscript{58} Older adults must be encouraged to read food labels for information about foods’ sodium content, reduce their consumption of processed foods, use less salt in cooking, add flavoring with spices, and increase their intake of fresh foods and home-cooked meals. Additionally, older adults receiving foods from Meals on Wheels or another nutrition program must select low-sodium meals if they are hypertensive or need to reduce dietary sodium because of other medical conditions.

**Iron**

Iron requirements for women decrease slightly after menopause. Although somatic iron stores are thought to increase with age, absorption of iron from foods is impaired in older adults with atrophic gastritis. Oral iron supplementation is effective for the treatment of iron-deficiency anemia, and can replenish total iron body stores after a few months of therapy. Iron is available in several forms, of which ferrous sulfate is the most commonly used form. Ferrous iron is best absorbed in an acidic environment; hence vitamin C is often added to iron supplements to enhance the absorption of iron. Consumption of iron-rich foods must also be encouraged among older adults.

**Zinc**

Zinc adequacy is important among older adults to prevent or reduce infections, and for wound healing. Zinc supplementation reduced the frequency of infections among older adults.\textsuperscript{59} Zinc has also been identified as a factor in the development of age-related macular degeneration (AMD). As mentioned earlier, zinc supplementation in combination with antioxidant vitamins reduced the incidence of AMD.\textsuperscript{24} The zinc Estimated Average Requirement (EAR) for males over 50 years is 11 mg/day, and for females over 50 years the EAR is 8 mg/day. The best way to obtain adequate zinc in the diet is to eat a wide variety of foods.

**IMPROVING DIETARY INTAKE**

Improving dietary intake is one of the most optimal interventions for promoting health, preventing diseases, reducing the risks for chronic conditions, and preventing micronutrient deficiencies. Several organizations including the Academy of Nutrition and Dietetics, U.S. Department of Agriculture (USDA), National Cancer Institute, and American Heart Association all promote common guidelines to achieve goals to increase lifespan and improve life quality. The Dietary Guidelines for Americans, 2010\textsuperscript{60} outline the basic strategies for healthy living and also encourage older adults to include foods fortified with vitamin B\textsubscript{12}.

**NUTRITION EDUCATION**

Nutrition education can be a successful intervention when the methods and messages are targeted and simple.\textsuperscript{61} Nutrition education must be offered to older adults in familiar venues with easy access.

- **Nutrition screening and assessments.** Older adults typically have one or more chronic health conditions that can affect their dietary intakes and micronutrient statuses. It is recommended that nutrition screening be a mandatory part of the geriatric health screening process. Additionally, pertinent assessments for possible deficiencies of select micronutrients (namely vitamins D, B\textsubscript{6}, B\textsubscript{12}; and the minerals calcium, iron and zinc) must also be included as an intervention in the screening process.

- **Medical Nutrition Therapy (MNT).** Providing MNT to older adults by registered dietitian nutritionists is a very cost-effective and result-oriented intervention. MNT includes conducting a nutrition assessment; establishing a nutrition diagnosis; and selecting appropriate nutritional interventions, counseling, and management of nutrition therapy for older adults. MNT can be provided in home settings, as part of residential health care, and in assisted-living facilities. MNT interventions enable older adults to make necessary dietary modifications, manage the treatment of chronic diseases, and enable older adults to reduce malnutrition and micronutrient deficiencies.
Several models used for transitional care and ongoing community care for older adults are effective interventions as part of the total care for older adults. Table 2 describes some of these models and the services offered, and includes the roles of nutrition professionals.

**Table 2: Community and transitional-care models. (Reprinted with permission from the Academy of Nutrition and Dietetics.)**

<table>
<thead>
<tr>
<th>Community and transitional care models</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Geriatric Resources for Assessment and Care of Elders (GRACE)</td>
<td>Includes a nurse practitioner and a social worker who cares for low-income elders in partnership with the primary care provider and interdisciplinary team. The team develops an individualized care plan and determines the priority sequence for each component that incudes protocols developed for the treatment of 12 targeted geriatric conditions (including protocol for malnutrition and weight loss).&lt;sup&gt;128&lt;/sup&gt; A registered dietitian is an integral member of the team.</td>
</tr>
<tr>
<td>Program of All-Inclusive Care for the Elderly (PACE)</td>
<td>Capitated managed care benefit for elderly persons who use an adult day health center supplemented by in-house and referral services to meet participants' needs.&lt;sup&gt;129&lt;/sup&gt; A registered dietitian is an integral member of the team.</td>
</tr>
<tr>
<td>The Guided Care Model</td>
<td>Targets older adults with chronic conditions and complicated health needs. Driven by a physician/nurse team and designed to focus on quality of life, improve the efficiency of use of health care resources, and reducing cost.&lt;sup&gt;130&lt;/sup&gt;</td>
</tr>
<tr>
<td>Patient-Centered Medical Home (PCMH)</td>
<td>Provides comprehensive primary care for people of all ages and medical conditions. Registered dietitians “can be an integral part of the team that provides patient-centered care to individuals through the medical home.”&lt;sup&gt;131&lt;/sup&gt;</td>
</tr>
<tr>
<td>Accountable Care Organizations (ACOs)</td>
<td>New model of care under Health Care Reform (The Affordable Healthcare Act). This model of care is similar to PCMH in that it allows a group of providers to manage and coordinate the care of individual patients. As the recommended model within the framework of health care reform, ACO is perceived as the upcoming model for cost-saving and patient care. ACO providers will be held to high quality standards and must secure better patient care and improved health outcomes. If ACOs do not meet the standards set, they will be required to pay back Medicare for failing to provide efficient cost-effective care. The ACO program is scheduled to begin January 1, 2012.&lt;sup&gt;132&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

- **Accountable Care Organizations (ACOs)**: Food and nutrition practitioners must take the initiative in identifying ACO networks within their markets and ensure their inclusion within them.

- **Transitional Care Model (TCM)**: This model provides in-hospital planning and home follow-up for older adults with chronic conditions hospitalized for common medical and surgical conditions. The American Geriatrics Society defines this care model as “a set of actions designed to ensure the coordination and continuity of healthcare as patients transfer between different locations or different levels of care within the same location.”<sup>133</sup>

- **Community-based care**: A wide range of resources and services is available to older adults in the community. This includes home care, services such as caregiver support, community-based services such as adult day care, home hospitals, and telemedicine; and community-based services that require a change of residence such as assisted living facilities, group homes, and continuing care communities.

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- **Older Americans Act Nutrition Programs (OAA)**: OAA is the largest community nutrition services program for older adults administered by the Administration on Aging of the U.S. Department of Health and Human Service, through Title III-C. These programs include congregate meals, Meals on Wheels (which provides home-delivered meals), nutrition screening and nutrition education, and other services. This program serves as an excellent intervention service for older adults, as the meals provide at least one-third of the Dietary Reference Intakes for older adults, thus reducing the gap for nutritional deficiencies that might otherwise occur. Other programs such as SNAP and Senior Farmers’ Market Nutrition Program enable older adults to purchase fruits, vegetables, and other healthy foods that provide necessary micronutrients and boost the nutritional status of their meals.

Although nutrition education is recommended in most federal food and nutrition programs for older adults, it is not routinely provided. The OAA programs reach fewer than 5% of all older Americans, but the Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves more than 60% of needy women, infants, and children. The success of the WIC program has been attributed to its strong emphasis on targeted and effective nutrition education, the provision of nutritious foods as prescribed by trained nutritionists, cost effectiveness, and the provision of necessary resources and support to the participants. Adequate funding and resources are essential for increasing older adults’ participation in senior nutrition programs. These include extensive outreach efforts, referral systems, educational programs, and effective program management.

Continued on page 8
Table 3: Summary of federal food and nutrition assistance programs for older adults. (Reprinted with permission from the Society for Nutrition Education.)

**US Department of Health and Human Services—Administration on Aging**

<table>
<thead>
<tr>
<th>Program</th>
<th>Purpose</th>
<th>Appropriation</th>
<th>Target population</th>
<th>Services</th>
<th>Participation</th>
<th>Eligibility</th>
<th>Eligible Older Adults Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older Americans Act Titles I–VII</td>
<td>Grants to state, tribal and community programs on aging (e.g., research, demonstration projects)</td>
<td>$1.49 billion total Fiscal year (FY) 2009</td>
<td>Age ≥60 y in greatest economic and/or social need, with particular attention to low-income minorities, those in rural areas, those with limited English proficiency</td>
<td>Nutrition, array of other supportive and health services, protection of vulnerable older Americans</td>
<td>9.5 million older adults FY 2006</td>
<td>Age is sole requirement (see also Target population column)</td>
<td>18.5%</td>
</tr>
<tr>
<td>Older Americans Act Titles I–VII</td>
<td>Title III Nutrition services to older adults</td>
<td>$649 million FY 2009</td>
<td>Age ≥60 y; age ≥60 y and disabled living in elderly housing, disabled living at home and eating at congregate sites or receive home-delivered meals with older adults, volunteers during meal hours</td>
<td>Congregate and home-delivered meals; nutrition screening, assessment, education, counseling</td>
<td>2.6 million older adults 236 million meals FY 2007</td>
<td>Same as above but only homebound eligible for home-delivered meals</td>
<td>5.1% of all eligible older adults</td>
</tr>
<tr>
<td>Older Americans Act Titles I–VII</td>
<td>Title IV Tribal and native organizations for aging programs and services</td>
<td>$36 million FY 2009</td>
<td>Age requirement determined by Tribal organizations or Native Hawaiian Program</td>
<td>Congregate and home-delivered meals; nutrition screening, education, counseling; array of other supportive and health services</td>
<td>70,000 older adults 4 million meals FY 2006</td>
<td>Age is sole requirement</td>
<td>Not available</td>
</tr>
<tr>
<td>Nutrition Services Incentive Program</td>
<td>Provides proportional share to states and tribes of annual appropriation based on number of meals served prior year</td>
<td>$161 million FY 2009</td>
<td>Same as Title III</td>
<td>Cash and/or commodities to supplement meals</td>
<td>Same as Title III</td>
<td>Not available</td>
<td></td>
</tr>
</tbody>
</table>

**US Department of Agriculture—Food and Nutrition Service**

<table>
<thead>
<tr>
<th>Program</th>
<th>Purpose</th>
<th>Appropriation</th>
<th>Target population</th>
<th>Services</th>
<th>Participation</th>
<th>Eligibility</th>
<th>Eligible Older Adults Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplemental Nutrition Assistance Program</td>
<td>Assists low income families to buy food that is nutritionally adequate</td>
<td>$40 billion FY 2008</td>
<td>US citizens and legal residents who are most in need, gross income ≤ 130% federal poverty level; up to $2,000 countable resources, $3,000 if age 60+ y or disabled</td>
<td>Coupons or electronic benefits to purchase breads, cereals, fruits, vegetables, meats, fish, poultry, dairy products; seeds and plants that produce food for households</td>
<td>28.4 million (67%) 51% children 41% adults 8% age ≥60y FY 2008</td>
<td>≤130% of the federal poverty guidelines</td>
<td>30% of eligible older adults participate; 75% of these live alone. 8% of all Supplemental Nutrition Assistance Program participants are older adults</td>
</tr>
<tr>
<td>Commodity Supplemental Food Program</td>
<td>Food and administrative funds to states and tribes to supplement diets. Available in 33</td>
<td>$140 million FY 2008</td>
<td>Pregnant and breastfeeding women, mothers up to 1yr postpartum, infants, children up of age 6yr</td>
<td>Participants receive a monthly food package</td>
<td>466,180 FY 2007 433,000 older adults 33,000 women, infants, children 92% of those are age 60 y and older</td>
<td>Age ≥60 y, ≤130% federal poverty guidelines Women, infants, children ≤185% federal poverty guidelines</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Continued on page 9
Food fortification and enrichment. Over the years specific micronutrients have been added to foods and beverages around the world as public-health measures, and as cost-effective ways of reducing proven micronutrient deficiencies and ensuring the nutritional quality of the food supply. Among the best examples of these interventions are the addition of vitamin D to milk to prevent rickets, iodization of salt to prevent goiter, and fluoridation of water to prevent dental caries. In other intervention measures, multiple micronutrients are added to foods such as cereals to improve micronutrient intake and prevent deficiencies. Older adults must be encouraged to consume some of these fortified and enriched foods to reduce and prevent micronutrient deficiencies.

Biofortification. Biofortification is a newer technology that combines the best traditional breeding practices and modern technology to enable the delivery of micronutrients via micronutrient-dense crops. Biofortification is a cost-effective way of using cutting-edge plant-breeding methods and genetic modifications to deliver adequate micronutrient levels inside the edible parts of crops. Efforts to produce and accumulate carotenoids, iron, zinc, and other micronutrients in staple foods such as rice, cassava, and even some fruits and vegetables are underway in Africa and Asia. Biofortification may offer cost-effective and sustainable solutions to reduce micronutrient deficiencies.

<table>
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<tr>
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<th>Eligibility</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Seniors' Farmers Market Nutrition Program</td>
<td>Grants to states and tribes to provide fresh foods and nutrition services while providing the opportunity for farmers to enhance their business</td>
<td>$20 million FY 2008</td>
<td>Low income older adults: at least aged 60 y and who have household incomes of not more than 185% federal poverty</td>
<td>Coupons or vouchers to be exchanged for fresh fruits and vegetables at local farmers markets</td>
<td>46 agencies FY 2006</td>
<td>≤185% federal poverty guidelines</td>
<td>Not available</td>
</tr>
<tr>
<td>Child and Adult Care Food Program</td>
<td>Healthy, nutritious meals for children and adults in day centers</td>
<td>$2.4 billion FY 2008</td>
<td>Children &lt;12 y, homeless children, migrant children &lt;15 y, Disabled citizens regardless of age, Age ≥60 y; functionally impaired; reside with family members</td>
<td>Nutritional meals and snacks</td>
<td>1.9 billion meals FY 2008</td>
<td>≤185% federal poverty guidelines</td>
<td>Not available</td>
</tr>
</tbody>
</table>

SUMMARY
While good nutrition is a key factor at every stage of life for maintaining good health and personal productivity, it is especially important for older adults because of the numerous changes that occur during the aging process. The process of aging generally increases the risk of not obtaining adequate nutrition due to the onset of illnesses, chronic diseases, decline in physical abilities and cognitive skills, and other socioeconomic factors. Undernutrition along with chronic conditions that interfere with the maintenance of health and nutrition status is fairly common among older adults. Micronutrient deficiencies are also referred to as “hidden hunger” for a very good reason: They do not occur because of a lack of calories, but rather from a chronic lack of vitamins and minerals in the diet. Older adults have a difficult time obtaining adequate levels of several micronutrients, namely the vitamins A, D, E, K, B₁₂, B₉, and folate; and the minerals calcium, magnesium, iron, and zinc. Nutrition interventions must be designed to meet all aspects of the needs of older adults, including food preferences, coping skills, food insecurity, and the current health and nutritional statuses of older adults. Although a varied diet containing nutrient-dense foods can meet daily micronutrient requirements, a daily multinutrient supplement specifically designed for older adults may be necessary to help meet the RDAs. The current community-based nutrition programs for older adults play a vital role in helping to meet the nutritional needs and address nutritional gaps for older adults. Easy access to these programs, along with adequate nutrition services, will go a long way toward helping to reduce micronutrient deficiencies among older adults and help them lead healthy lives.

Vijaya Jain is currently a nutrition consultant in New York, and an active board member of the New York State Women, Infants and Children (WIC) Association. As a registered dietitian since 1979, she has over 30 years of experience in planning, directing, and coordinating nutrition programs in diverse settings. At the University of Illinois, Ms. Jain served as the director of the Graduate Internship Program and as a senior nutrition specialist. She has led the efforts to enhance school lunch programs with soy-protein foods in India and Central America, in partnership with the World Initiative for Soy in Human Health, the primary goal of which is to create sustainable solutions to the problem of protein malnutrition around the world. Ms. Jain also coordinated research and education efforts in Central America for the introduction of soy and whey-based multi-micronutrient supplements, and for the development of micro-enterprise projects for families afflicted with HIV/AIDS. She was actively involved with Illinois Soy, which aims to improve the nutritional profile of the Illinois elementary and secondary school lunches and reduce obesity among school-aged children. As a clinical nutritionist at the New York Presbyterian Hospital of Columbia and Cornell Universities, Ms. Jain provided nutrition counseling to nutritionally vulnerable groups and individuals. At the Ossining Open Door Health Center in New York, she was Director of the WIC program.
She received her MS degree from the University of Illinois at Urbana-Champaign, her MSc degree from the University of Madras, and her BSc degree from the University of Bangalore. Ms. Jain is the recipient of Distinguished Service Awards from the New York State WIC Association (2005) and the New York State Metropolitan WIC Association (2000). She is also a certified cardiovascular nutritionist and has served as co-chair of the nutrition committee of the American Heart Association.

References
45. Call for Volunteers

The Women’s Health DPG is looking for a volunteer to fill the position of Newsletter Editor for the 2014-2015 membership year. If you are interested in volunteering or would like to learn more about this position, please send an email to info@womenshealthdpg.org.
Vijaya Jain, MSc, MS, RD, CDN, has focused the majority of her career on improving the nutritional status of women, infants, children, and vulnerable populations both in the United States and in several developing countries. She is currently a nutrition consultant in New York and an active board member of the New York State Women, Infants, and Children (WIC) Association. Vijaya is a member of several Academy groups, including the Women's Health, Healthy Aging, and Vegetarian Nutrition DPGs. Additionally, she is a member of the Asian Indians in Nutrition and Dietetics member interest group (MIG) as well as the Fifty Plus in Nutrition and Dietetics MIG.

Please tell us about your professional background and the path that led to your incredibly diverse, international dietetics career. As an undergraduate and graduate student in India, I was fortunate not only to receive a very comprehensive education, but also to participate in numerous community programs. We students were required to implement appropriate nutrition projects and develop educational materials. Some of these projects were in rural areas, and we had the opportunity to learn firsthand the challenges people of all ages faced in terms of meeting their nutritional needs. These challenges included the lack of potable water and electricity; inadequately equipped health clinics; chronically ill infants, children, and older adults; and food shortages. Learning how to find both practical and economical solutions to resolve some of these problems was one of the most valuable lessons for me as a young student. This life-changing experience inspired me to focus on strategies for reducing malnutrition both in domestic and international settings.

My graduate education at the University of Illinois provided me with research training, and in my thesis work I studied the nutritive value and acceptability of soy foods. I went on to complete my internship in San José, California, worked as a supervisor in a clinical setting, and ended up with the Visiting Nurses Association as a nutrition consultant in California and then in New York. This last position challenged me to create sustainable strategies for meeting the nutritional needs of homebound older adults. I learned the incredible value of teamwork in delivering comprehensive, effective home health care.

Later, as director of a WIC program in Ossining, NY, I focused more intensively on practical ways to develop nutrition-education tools and then train instructors about these tools. I also advocated at the policy level for the broad needs of the WIC population. Most recently, at the University of Illinois, my work involved planning, coordinating, and implementing school lunch and complementary feeding programs. In this role I also conducted intervention studies using a soy- and whey-based micronutrient supplement aimed at reducing malnutrition in several countries. I have also served as a mentor and preceptor to both graduate and undergraduate students at San José State University, New York Medical College, the University of Illinois, and several other institutions. My varied work experiences have sustained my dedication to reducing micronutrient deficiencies and malnutrition in vulnerable populations.

What are your goals for the future? Following my international work investigating micronutrient supplements, I have continued to collaborate with professional colleagues and organizations. Their focus is to improve the nutritional profile of meals and snacks being provided to children and adults. A major goal of these efforts is to improve the micronutrient intake of older adults in the home setting. Comprehensive education helps people make better optimal choices, and simpler food preparation is crucial to achieving better nutritional status. This is a goal to which I am dedicated on an ongoing basis.

How do you feel dietetics practitioners can improve the quality of care and health outcomes for an aging population? Dietetics practitioners can play a critical role by acquiring adequate science-based knowledge, practical training, and by actively participating in the special field of geriatric nutrition as the nutrition expert in a team setting. They should:

- Strive to review and keep up to date on the latest science on geriatric nutrition.
- Participate as much as possible in community settings that work with older adults and need nutrition expertise.
- Participate actively in the realm of advocacy and promoting policy changes.

What do you want dietetics practitioners to learn from your professional experiences? We work in a profession that is growing rapidly and will continue to do so. It is very important that dietetics practitioners keep up with new information, be able to demonstrate their knowledge of geriatric nutrition, and translate this knowledge into practical, evidence-based recommendations that are easy to implement. In addition, we should continually learn from the experiences of our colleagues and mentors, and strive to work in teams.

Are there any other lessons you have learned during your career that you would like to share? I have learned that we can achieve more when we take the initiative, stay focused on a project’s mission, and remain persistent. These approaches help us find appropriate solutions to eliminate barriers and accomplish our endeavors successfully.
IMPROVING QUALITY OF LIFE FOR OLDER ADULTS: A Resource List

By Jamillah-Hoy Rosas, MPH, RD, CDN, CDE

Myriad physical, biological, and psychosocial changes accompany the aging process. Understanding these normal changes, their relationships to disease and disability, and how best to help older adults avoid or cope with these issues is essential for healthcare practitioners and researchers.

Dietetics practitioners can keep abreast of these topics by being attuned to various resources, a few of which are listed below.

PROMOTING GOOD NUTRITION AND AGE-APPROPRIATE PHYSICAL ACTIVITY

Connecting patients and clients with resources that address key nutrition and physical activity messages specifically designed for older adults is essential.

- The National Institute on Aging provides an interactive resource, “What’s on Your Plate: Smart Food Choices for Healthy Aging.”

- The “Go for Life” campaign includes physical-activity ideas and videos for the older adult.

CLEAR COMMUNICATION BETWEEN PATIENTS AND HEALTHCARE PROVIDERS

It is vital for patients to choose health care providers with whom they can communicate comfortably. Clear communication improves patient-provider relationships and patient outcomes.

- On its Clear Communications website, the National Institutes of Health provides a variety of resources about how patients can better communicate with their health care providers.

- The National Women’s Health Institute offers a simple handout on the topic.

- The Conversation Project is a public engagement campaign launched in collaboration with the Institute for Healthcare Improvement specifically to promote “kitchen table” conversations with family and friends about wishes for end-of-life care. It offers a starter kit for initiating this difficult but important conversation.

IMPROVING MEDICATION ADHERENCE AND HEALTH LITERACY

As patients grow older, they are more likely to be diagnosed with multiple illnesses and have large medication burdens. Limited health literacy is associated with a number of health disparities, poor health outcomes, and medication errors.

- In 2009 the CDC developed a panel report with recommendations for improving health literacy in older adults.

- The U.S. Department of Health and Human Services created the useful Quick Guide to Health Literacy and Older Adults specifically for those practitioners working with older adults on health and aging issues.

- To improve the likelihood that patients understand their medication regimens and stick to them, there are tools, reminders, and resources available at Script Your Future.

- The Institute of Medicine has a roundtable on health literacy with an ongoing series of meetings and reports.

SMOKING CESSATION

Quitting smoking is one of the best things people can do to prolong their lives and improve their healthcare outcomes. Smoking cessation will also save the aging smoker thousands of dollars every year that could be better spent on healthy activities such as buying nutritious food or being more physically active.

- The American Cancer Society provides a flyer that discusses the hidden costs of smoking.

- Those looking to quit the habit can visit the National Cancer Institute or call 1-877-44U-QUIT. Trained counselors are available to provide information and help in English and Spanish.

IMPORTANT HEALTH-RELATED LAB VALUES

A person’s blood sugar, blood pressure, and blood cholesterol numbers give vital information about disease risk.

- The American Diabetes Association and the American Heart Association both provide excellent resources on ways to reduce risk and improve health through lifestyle changes.

HIV STATUS

Adults aged 55 years and older are one of the fastest-growing populations to be newly infected with HIV. In older individuals these infections are often diagnosed when the virus is already in the later stages, which results in delayed treatment and the potential for poorer prognoses. Getting tested and beginning treatment as soon as possible helps both the affected individuals and the overall spread of the disease.

- Information about reducing risky behaviors and condom use is available at the Administration on Aging’s website, whose HIV Testing Sites and Care Services Locator tool allows one to search for testing centers and service providers close to home.

ADVANCE DIRECTIVES

There are two types of advance directives. A living will allows a healthy person to document his or her wishes concerning end-of-life medical treatments. A health care proxy is a person designated to honor another person’s wishes for medical treatments in the event that he or she is unable to make these decisions.

- The National Cancer Institute provides a very informative fact sheet, as well as additional resources and contacts to help individuals complete their advance directives.

- State-specific information about completing a living will and/or health care proxy is available at the Caring Connections website.
Mission: Empowering members to be the most valued source of nutrition expertise in women’s health throughout the lifespan. Vision: Optimizing the future of women’s health at all ages.

Membership: Professionals addressing women’s nutrition care issues throughout the lifespan and working to optimize women’s health at all ages and life stages including preconception, prenatal, postpartum, lactation and menopause.

OVERVIEW 2013-2014: The activities completed in 2013-2014 were centered on the following strategic plan goals:

- Build an aligned, engaged and diverse membership
- Proactively focus on emerging areas of women’s health nutrition across the lifespan
- Ensure women’s health issues are part of public policy and legislative agendas

During the 2013 – 2014 membership year, the leadership of the WH DPG worked to continue the efforts of expanding the scope of the WH DPG into all areas of women’s health and nutrition across the lifespan. Efforts were also made to create new partnerships and enhance existing partnerships with other DPGs and women’s health organizations. Another goal for this year was to redesign the WH DPG website (general site, members’ site and leaders’ site).

Highlights for this year include:

- Ongoing support of an Academy project for the Evidence Analysis Library on Malnutrition in Pregnancy. The intent of the project is to improve the quality of nutrition care through the development of evidence-based professional resources. As of May 31, 2014, the Academy was in the process of selecting workgroup members.

- Dynamic webinar series, offering CPEUs for both the live and recorded versions. Overall, a total of 811 people viewed either the live or recorded webinars:
  - Management of Common Breastfeeding Concerns (February 2014), presented with the Nutrition Education for the Public DPG
  - Sex and Gender Differences in Nutritional Needs (April 2014) –Presented in partnership with the Sex and Gender’s Women’s Health Collaborative
  - Supportive Supplements for Women’s Health (April 2014)
  - Exercise in Diabetes During Pregnancy (May 15)

- A redesign of the WH DPG website (general site, members’ site and leaders’ site). The website will not only have a new design, but will have enhanced functionality and usability powered by WordPress. Current resources such as past newsletters and archived webinars will be easier to access, and we plan to add new tools such as a member marketplace and a member discussion forum. The new website was scheduled to launch in October 2014.

ADMINISTRATION: The WH DPG Executive Committee, including officers, committee chairs, and Academy staff, met via conference call monthly to conduct business. A face-to-face meeting was held at the Academy of Food & Nutrition Conference & Expo (FNCE®). Membership was represented by elected and appointed officers at FNCE® on October 19-22, 2014 in Houston (including the Newsletter Editor Training, Treasurer Training and DPG Town Hall) and the Academy’s Public Policy Workshop on March 30 – April 1, in Washington, DC.

LEADERSHIP:

Elected officers:
- Chair: Kathleen Pellechia, RD
- Past Chair: Barbara Millen, DrPH, RD, LDN, FADA
- Chair-elect: Lisa Hamlett Akers, MS, RD, IBCLC, RLC
- Treasurer: Gail Frank, DrPH, RD, CHES
- Nominating Committee Chair: Maya Feller, MS, RD
- Nominating Committee Chair-Elect: Dina Lipkind, MS, RD, CDN
- Academy House of Delegates Representative: Denise Andersen, MS, RDN, LD, CLC

Committee Chairs:
- Communications: Miri Rotkovitz, MA, RD
- Membership: Maria Bournas, MS, RD

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Coordinators/Other Leaders

- **Policy and Advocacy Leader:** Dawn Ballossingh, RD, LMNT, MPA
- **Retention Coordinator:** Ginger Carney, MPH, RD, LDN, IBCLC, RLC
- **Mentoring Coordinator:** Patricia Slinger-Harvey
- **Publications Editor:** Heather Goesch, MPH, RDN, LDN
- **Assistant Publications Editor:** Stephanie Romaneiro, MS, RD
- **Awards Coordinator:** Sarah Borowicz, MS
- **Reimbursement Representative:** Rita Kashi Batheja, MS RDN CDN
- **Research Coordinator:** Jamillah Hoy-Rosas, MPH, RD, CDN, CDE

**MEMBERSHIP:** Membership as of May 31, 2014 was 903. The WH DPG conducted a membership survey from March –July 2014. Results are published in this issue of WHR.

**Member Benefits:**

- Quarterly electronic newsletter, *Women’s Health Report*
- Electronic mailing list (EML)
- Continuing professional education through WH DPG-sponsored webinars
- Social media (Facebook)
- Awards opportunities

The WH DPG website [www.womenshealthdpg.org](http://www.womenshealthdpg.org) received 6,578 page views during the 2013 – 2014 membership year. WH DPG Facebook page has 340 fans, and the WH DPG EML has 441 members.

**Publications** (*Women’s Health Report* Newsletter) 2013-2014:

- **Issue 1**
  2012 – 2013 Annual Report
  HOD Fact Sheet: Nutrition Services: Delivery and Payment Development of the 2015 Dietary Guidelines Part 1

- **Issue 2**
  Farm Bill Legislation Update and Call to Action

- **Issue 3**
  Sex and Gender Differences in Nutritional Needs
  Development of the 2015 Dietary Guidelines for Americans Part 2
  HOD Fact Sheet: Engaging Members in Research

- **Issue 4**
  Micronutrients and the Older Adult – Part 1: Micronutrients of Importance to Older Adults
  Book Review: *Younger Next Week*

**FNCE® 2013 ACTIVITIES:**

- The Executive Committee conducted its annual face-to-face meeting at FNCE®.
- Over 75 WH DPG members attended the conference.
- WH DPG co-planned a Spotlight Educational Session “Promoting Fertility via Optimal Nutrition: Nutrition in Infertility Prevention and Management,” which featured speakers Judy Simon, MS, RDN, CD, CHES and Jorge Chavarro, MD, ScD.
- The FNCE® membership reception was hosted collaboratively with the Pediatric Nutrition and Nutrition Education for the Public DPGs with sponsorship from USA Rice.
- The WH DPG Chair-Elect participated in the Academy’s DPG Town Hall Meeting, whereas other leadership participated in Academy-sponsored training sessions (Treasurer, etc.).
- Executive Committee members staffed the WH DPG booth at the DPG/MIG Showcase.
- Two students were awarded stipends for registration to attend FNCE®.
- WH collaborated with the Public Health and Community Nutrition DPG to staff the Mother’s Room at FNCE®.

**Web Address:** [www.womenshealthdpg.org](http://www.womenshealthdpg.org)
**Facebook:** [www.facebook.com/WHDPG](http://www.facebook.com/WHDPG)
**EML:** WH_list@yahoogroups.com

**FINANCIAL OUTCOMES:**

**Total Revenue:** $27,607.00
**Total Expenses:** $31,881.00
This past spring/summer the WH DPG Executive Committee (EC) conducted its biannual member survey. The last survey was completed in 2012. The results are available below, and will be used by the EC to improve member resources and services. The number of survey respondents was 77, or approximately 10% of our membership. Thank you to everyone who participated.

1. **How long have you been a member of the WH DPG?**
   a. Less than one year - 17
   b. 1-3 years - 26
   c. 4-6 years - 10
   d. 7-9 years - 9
   e. over 10 years - 15

2. **Why did you join the WH DPG?**
   - I work in WIC and wanted more support and information regarding working with this population, especially pregnancy and breastfeeding.
   - Interested in maternal health.
   - I work with OB/GYN patients.
   - Passion for women’s health; networking; resources; and continuing education availability.
   - Interest in women’s health issues.
   - I am a MS Nutrition student and I want to specialize in women’s health, especially perinatal and fertility nutrition. I was hoping to network with RDs currently in the field and meet potential mentors.
   - Interested in maternal health and lactation.
   - I wanted to network with other RDs interested in reproductive nutrition.
   - My focus for the majority of my career has been on Preconception and Pregnancy education.
   - I am interested in maternal and child nutrition, as well as healthy eating for women throughout the life cycle.
   - I currently work in maternal health, and thought this would be a good resource.
   - Women’s health is a particular focus area, and an area of great interest overall. Women’s health impacts the health of the whole family, particularly her future offspring.
   - I have always been inherently interested in women’s health as a woman and as a feminist. I saw when signing up for Academy membership for the first time that there was a DPG supporting women’s health and it was automatic for me to want to be a part of it. I hoped joining would help me connect to students and professionals who share my interest in women’s health.
   - Initially joined when focus in a WIC job was limited to pregnancy/breastfeeding.
   - Networking and information.
   - My role as an RD in an OB clinic; wanted to state as up to date as possible on recommendations; knowledge-building.
   - Hoping to learn more about women’s health issues during mid-life.
   - As an IBCLC, RD it seemed a very useful DPG to be part of.
   - I see prenatal patients in the hospital and want to keep up with current information and practice.
   - To learn more about woman-specific nutrition, especially the role of hormones and their role in food choices.
   - I am interested in making women’s health a research and professional focus. I joined this group as a resource and to hear what others are doing in this area.
   - Increase knowledge, and networking.
   - Interested in connecting with others more knowledgeable in the women’s health arena.
   - I am interested in prenatal care and other woman-specific health issues.
   - I work in the fertility world as a dietitian.
   - Interested in women’s health as a female, and new research studies impacting nutrition and women’s health.
   - I have professional interest in PCOS, fertility, eating disorders and breast cancer.
   - I really enjoyed my WIC rotation during my dietetic internship.
   - I recently had a baby, so am interested in maternal/prenatal nutrition. I also believe an ideal job someday would be to work in a women’s health setting, helping women with a variety of health conditions or nutritional goals related to their unique needs (from prenatal to menopause).
   - I was recently offered a job in a women’s health clinic.
   - I work with pregnant women.

3. **Membership Category**
   a. Active - 66
   b. Retired - 1
   c. Student - 10

4. **What is (are) the area(s) in which you primarily work?**
   a. Administrative - 4
   b. Clinical - 31
   c. Community/Public Health - 14
   d. Education - 13
   e. Food Service - 1
   f. Industry - 1
   g. Private Practice - 19
   h. Research - 8
   i. WIC - 11
   j. Other - 11

5. **Please indicate any advanced degrees/specialty certifications that you have.**
   a. Masters - 42
   b. Doctorate - 7
   c. CLE/CLC - 7
   d. IBCLC - 5
   e. CHES - 2
   f. CDE - 11
   g. Other - 7

Continued on page 16
6. We are looking to gather information on members’ areas of expertise so that we can compile a list of experts for mentoring opportunities and assistance on projects. Please indicate your area(s) of expertise.

a. Aging - 8  
b. Blogging and social media - 10  
c. Cardiovascular disease - 5  
d. Community nutrition/public health - 14  
e. Culinary - 5  
f. Diabetes - 18  
g. Fertility - 12  
h. Food Allergies - 9  
i. Food service - 2  
j. Grant writing - 2  
k. Lactation - 21  
l. Management - 6  
m. Nutrition across the lifecycle - 13  
n. Oncology - 6  
o. Postnatal nutrition - 25  
p. Prenatal nutrition - 38  
q. Vegetarian/vegan - 9  
r. Webinar development/facilitation/presentation - 4  
s. Working with mass media/television/video - 3  
t. Other - 10

7. Please check which items are important to you as a WH DPG member.

a. Affordable membership - 54  
b. Networking - 47  
c. Newsletter - 56  
d. Electronic Mailing List (EML) - 40  
e. Social media - 15  
f. Website - 34  
g. Webinars - 63  
h. WH member events at FNCE - 19

8. Are you interested in any of these opportunities?

a. Applying for an Academy workgroup on Malnutrition in Pregnancy Evidence Analysis Project that WH DPG is supporting - 14  
b. Provide input/testing for the WH DPG website redesign - 9  
c. Be listed in expert directory - 9  
d. Be a mentee - 14  
e. Serve as a mentor - 2  
f. Write articles for the newsletter - 13  
g. Volunteer for a position on the board - 3

9. Do you have suggestions for webinar/newsletter topics?

- Breastfeeding
- How to start a private practice/connect with physicians’ groups
- Hyperemesis gravidarum
- Micronutrients in pregnancy
- Supplements for women’s health
- PCOS
- Nutrition and menopause
- Athletic triad
- Nutrition and menopause
- Eating disorders and reproductive nutrition
- Ideas for community outreach
- Teaching postpartum women to love their post-baby body
- Organic and GMOs
- More clinical information
- Dietary patterns
- Connection between cancer and obesity
- Precocious puberty; issues in gender identify and any connection with in utero environment
- Clinical evidence update on women’s weight gain/obesity during the lifecycle
- Update on MNT for morbid obesity in pregnancy
- Nutrition and lactation
- Nutrition concerns with at-risk pregnancies
- Impact of celebrity phenomena in health and nutrition messaging to women
- Motivational interviewing techniques
- Any updates on recommendations for vitamin D, calcium and vitamin B12 for older women at risk of heart disease, osteoporosis, or cancer
- Fertility
- Food sensitivities in breastfeeding moms and infants
- Preeclampsia
- Thyroid issues

10. Other comments/suggestions?

- Have a monthly email newsletter.
- Include more research and studies in the newsletter.
- A challenge that persists remains among many members is our associations with corporate sponsorship. I think a survey should be done among our membership, and discuss the issue at a leadership level. From there we can set a strategy for developing other sponsorship relationships for FNCE membership event, and develop a statement to the public and to the membership on this topic.
- Thanks for the website and other good information.
- The networking on the listserv is wonderful. So many talented and skillful dietitians in our DPG. One suggestion is that if a question/conversation trail is specific between two members that they converse directly rather than post to the whole listserv unless it is information that would be helpful to all. I appreciate the many comments and opinions offered, but get a lot of emails and it is hard to sift through so many comments. Thanks.
- It is great to have the EML as a resource when needed. I learn a lot from others’ experience.
- I miss the active listserv we had when I first joined. The research chair would share abstracts and they generated a lot of discussion.
- Thank you for all the information this DPG provides!! It truly advances my practice.
Academy HOD 2014 Spring Meeting Survey - Research Area

1. What are you already doing in regards to research?
   a. Reading journal articles - 59
   b. Using research resources in my current area of practice - 38
   c. Conducting my own research projects (independently) - 7
   d. Collaborating with other researchers/agencies on research projects - 19
   e. Writing grants to receive funding for research projects - 5
   f. Publishing research in peer-reviewed journals - 8
   g. I am not currently doing anything related to research - 16
   h. Other - 2

2. Have you ever applied for or received an Academy of Nutrition and Dietetics (Academy) research grant?
   a. Yes - 0
   b. No - 77

3. Do you see yourself contributing to research in the future?
   a. Yes - 42
   b. No - 33

4. If you answered yes to the previous question, how do you see yourself contributing to research in the future?
   • Collaborating with other researchers, publishing research, using current research in my clinical practice and continuing to read journal articles
   • Designing, conducting, interpreting and publishing research
   • Participating in research in all aspects
   • Working with others especially at my own institution
   • Continue to conduct and publish research
   • I would love to be involved with a research team looking at how nutrition data relates to fertility and perinatal outcomes.
   • Research at my hospital
   • Coordinating with staff
   • Study design, development and analysis
   • Possibly writing grants for funding or collaborating in research projects
   • I wish to do research, but on what topic exactly, I am not sure.
   • Research at the fertility clinic I work at
   • Possibly collaborating with a university researcher
   • Nutrition and fertility research
   • Academy project
   • I work in the NICU and we are discussing some areas of research we plan to work on in the near future.
   • Writing articles and/or case studies for DPGs or other newsletters
   • Publication of a peer-reviewed journal article
   • Best practices for prenatal nutrition counseling to increase full-term pregnancies and healthy birthweight babies for vulnerable populations
   • Evidence-based research studies

5. If you answered no, what prevents you from wanting to contribute to research in the future?
   • Would prefer to have a job with hands-on experience in counseling others
   • Don’t have the support or resources
   • Lack of time
   • Lack of skills
   • My current job is in medical/nutrition education; not in a clinical area
   • Limited research at my place of employment
   • Not sure I could take that on as a solo practitioner

6. Do you use any of the following resources?
   a. Academy's Research website (http://www.eatright.org/research) - 21
   b. Academy's Health Informatics Infrastructure (ANDHII) - 4
   c. Academy's "Understanding the Basics of Research" Toolkit - 5
   d. Dietetics Practice-Based Research Network - 4
   e. Evidence Analysis Library (EAL) - 50
   f. International Dietetics and Nutrition Terminology - 22
   g. Nutrition Care Manual (Adults) - 39
   h. Nutrition Care Manual (Pediatrics) - 18
   i. Cochrane Database - 21
   j. Research Dietetic Practice Group - 6
   k. APHA - 4
   l. ASPEN - 11
   m. FSMEC - 0
   n. SNEB - 4
   o. Other - 10

7. What is your primary work setting?
   a. Hospital, HMO, or other health care facility - 33
   b. Sports nutrition, corporate wellness programs - 0
   c. Food/nutrition industry - 1
   d. Private practice - 16
   e. Community/public health setting - 9
   f. College/university - 5
   g. Not currently employed - 8
   h. Other - 2

8. What is your highest level of education?
   a. Associate's Degree - 0
   b. Bachelor's Degree - 30
   c. Master's Degree - 39
   d. Doctoral or Professional (JD, MD) Degree - 7

9. What degree are you currently pursuing (if any)?
   a. Associate's Degree - 0
   b. Bachelor's Degree - 4
   c. Master's Degree - 7
   d. Doctoral or Professional (JD, MD) Degree - 1
   e. None
Business and management skills span all areas and levels of practice and help elevate the profession of nutrition and dietetics. Without business and management skills, RDNs and DTRs do not have the expertise needed for advancement beyond entry level jobs. Management skills “are mandatory, not optional, in every area of dietetics practice” (1). “Development of management and leadership skills should be woven throughout the fabric of our didactic and supervised practice curricula of our future practitioners, not isolated in foodservice management courses or experiences. Enhancement of these skills should be an essential component of our continuing professional education” (1). Management provides RDNs and DTRs opportunities to “see and seize the chance to step up and lead” (1). The field of food and nutrition is diverse and expansive and will continue to grow and evolve. It is critical for RDNs and DTRs to utilize, expand and sustain their business and management skills in order to seize current and emerging professional opportunities.

RDNs and DTRs can hold many prominent positions in a variety of environments, from healthcare to industry and from local public health to world-wide endeavors; the sky is the limit. RDNs and DTRs can position themselves as leaders and change agents to influence the future of food and nutrition services locally, nationally, and globally. It is our duty to propel the profession forward, and we can do that if we create a culture that values and exemplifies business and management principles and expertise.

**Mega Issue Question:**
How can all Academy members utilize, expand and sustain business and management skills to take advantage of current and emerging professional opportunities?

**Meeting Objectives:**
Participants will be able to:
1. Identify benefits and successful outcomes of utilizing business and management skills.
2. Expand members’ awareness, utilization and development of business and management resources.
3. Develop strategies to utilize, expand and sustain business and management skills.
4. Apply business and management skills in all areas of practice.
5. Recognize, seize and create business and management opportunities.

**What HOD Needs from You**
Talk with your delegate(s) about this issue in advance of the Fall 2014 HOD Meeting (October 17-18, 2014).

Question for you to consider: What is the value of business and management skills in your practice area? Provide your feedback to your delegate by September 30, 2014.

Delegate contact information is available at [www.eatright.org/leaderdirectory](http://www.eatright.org/leaderdirectory). The backgrounder is available at [www.eatright.org/hod > Fall HOD Meeting > Meeting Materials](http://www.eatright.org/hod).
Outstanding Student in Women’s Health Award: Eden Goykadosh

Eden graduated this past May from Queens College with a B.S. in Dietetics. She is currently enrolled in the Queens College joint Dietetic Internship and Master’s Program. She plans to specialize in women’s nutrition with an emphasis on maternal-fetal and infant nutrition.

Emerging Professional in Women’s Health Award: Wendy Baier, RDN

Wendy works in an outpatient setting providing nutrition counseling to those living with HIV/AIDS. She enjoys helping her clients learn how to live healthy lives while managing the symptoms of HIV, as well as common co-morbid conditions like hypertension and diabetes.

Wendy looks forward to exploring the field of dietetics further, and is excited to become more involved with the WH DPG, having recently volunteered to be Assistant Editor for Women’s Health Report.

Excellence in Practice in Women’s Health Award: Judy Simon, MS, RDN, CD, CHES

Judy practices as a clinic dietitian and clinical instructor at the University of Washington Medical Center and owns Mind Body Nutrition, PLLC specializing in reproductive nutrition. She is the immediate past chair of the Nutrition Special Interest Group of the American Society of Reproductive Medicine (ASRM), president of the Seattle Tacoma Reproductive Society, and serves as the WH DPG Mentoring Coordinator.

Judy will be a presenting faculty member at the 2014 ASRM annual meeting Obesity, Nutrition and Fertility. She created and now teaches the successful Food for Fertility program for overweight women now in its third year. She is also currently launching a new program, Food for Moms, for pregnant or new moms who are overweight.

REDESIGNED EVIDENCE ANALYSIS LIBRARY (EAL) WEBSITE

The new website has launched. Features of the updated site include:

Improved Organization - Quick view of all EAL projects

Easier to Navigate - Less clicking to access project content

Evidence analysis questions organized by steps of the Nutrition Care Process within each project

Updated EAL Tutorial Modules

Quick links to popular pages like EAL Orientation Tutorial and other resources

The EAL is a complimentary benefit to all Academy members. Visit the new site at http://www.andeal.org/.

FNCE® 2014 WH DPG EVENTS

Monday, October 20
9:30am-12:30pm
Georgia World Congress Center, Expo Hall

DPG/MIG Showcase
Stop by to meet members of the WH DPG Executive Committee!

Tuesday, October 21
8:00am-9:30am
Georgia World Congress Center, Room B312-314

Spotlight Session:
Behavioral and Nutrition Strategies for Women’s Long-Term Weight Loss Maintenance

Obesity presents a complex paradox for aging women. This presentation will review the latest obesity prevalence, examine behavioral and physiological culprits of unsuccessful weight maintenance, and recommend evidence-based methods to assist in designing successful weight loss maintenance strategies for middle-aged and older women.

Speakers: Barbara Millen, DrPH, RD, FADA and Jeremy Akers, PhD, RD

We will also present our 2014 WH DPG Awards winners at the session.
Support the Foundation of Your Profession

Last year, Academy member support helped us expand the Kids Eat Right initiative to over 4,000 campaign members. Help us continue to promote quality nutrition for all kids!

Every dollar counts! To donate online go to www.eatright.org/foundation/donate.