Older Americans: Making Food & Nutrition *Choices* for a Healthier Future

The Older Americans Act Nutrition Program in the US Administration on Aging *Choices for Independence*

April 2007

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Executive Summary

The US Administration on Aging's (AoA) *Choices for Independence* (*Choices*) initiative promotes a rebalanced system away from the nursing home and facility-based long term care (LTC) model to a more cost effective home and community based (HCB) model with a full array of services to help older adults remain in their homes.

Nutrition plays an integral role in keeping older adults healthy and independent in the community by preventing malnutrition, reducing the risk of chronic diseases and related disabilities, supporting better mental and physical functioning, and managing common chronic diseases. HCB food and nutrition programs are vital in helping older adults achieve good nutritional status and remain healthy, physically active and independent with a good quality of life. Therefore, to truly rebalance the present LTC system, food and nutrition services must be fully integrated into *Choices.*

The Older Americans Act (OAA) Nutrition Program can be a model for the *Choices* Initiative. The highly rated Nutrition Program is a key foundation service with a history of documented, substantial contributions to the health and social well being of its participants. It is well integrated into home and community settings through coordination with community partners. Its care planning process includes nutrition screening, nutrition education, and nutrition assessment and counseling when appropriate. The OAA Nutrition Program, the nation's largest food and nutrition assistance program targeting older adults, supports the OAA vision and meets performance outcomes and indicators established by the AoA. It is a proven, cost effective means of helping older persons maintain their health and independence, fully engage in society and community life, and stay in their own homes and communities for as long as possible.

The illustration on the next page (Figure 6 in the paper) summarizes how food and nutrition services can be easily integrated into the AoA initiative, *Choices for Independence* through the OAA Nutrition Program.

Older Americans: Food & Nutrition Choices for a Healthier Future **Consumer-Driven, Evidence-Based Food & Nutrition Services in Older Americans Act Nutrition Programs**		
• Community dining options at congregate sites (culturally appropriate meals, entrée choices, soup & salad bars) & restaurant vouchers to improve food & nutrient intakes; • Home-delivered nutritionally-dense tasty meals (therapeutic meals for renal diets, etc., texture modifications, hot/frozen meals, daily/weekly deliveries, meals for older caregivers); • Interactive nutrition education sessions on healthy eating, food labels, food safety & physical activity tailored to older adults & caregivers; • In-depth individualized nutrition counseling for chronic disease management; • Disease-specific group nutrition counseling sessions; • Referrals & coordination to connect consumers & caregivers with community partners for HPDP services, in-home services, food & nutrition assistance programs, facility-based case managers for post-discharge meals, Medicaid Waivers, state/tribal funded home & community based services to delay nursing home placement.		
Empower Consumers to Make Informed *Choices* using ADRCs	**Promote Health & Prevent Disease via Evidence-Based HPDP Programs**	**Delay Institutionalization in High Risk & Non-Medicaid Individuals**
• Provide 1-Stop-Shopping to reduce malnutrition & promote healthy eating via consumer-tested brochures, internet material, evidence-based interventions, info about available food & nutrition services (home-delivered meals, congregate sites, Medicare-covered diabetes treatment); • Include 2-3 key nutrition questions on the uniform I&R/assessment forms to prioritize referrals to nutrition services & interventions--healthy meals, nutrition counseling, family caregivers support; • Reduce malnutrition & hunger via I&R to food assistance programs (Food Stamp Program, Sr Farmers' Market Nutrition Program, food banks); • Ensure food & nutrition needs are met in Medicaid Waiver or state/tribal funded HCB service options by greater availability of nutrition services & nutrition expertise; • Inform consumers about possible private pay options for food & nutrition services.	• Regularly offer nutrition screening, nutrition education & nutrition counseling; • Provide integrated, evidence based HPDP nutrition & physical activity programs; • Provide I&R for consumers & families about local evidence based HPDP programs such as chronic disease self management; mental health; falls prevention; immunizations; • Partner with HPDP programs to increase accessibility at senior centers & congregate dining sites; • Offer *Choices* of appropriate HPDP programs to homebound consumers.	• Train case managers & other gatekeeper assessors to screen for nutrition risk & identify the need for referral to food & nutrition services, & to RDs for nutrition assessment, diagnosis, treatment, care planning & monitoring; • Provide food & nutrition *Choices* in home delivered meals including special diets, texture modifications, hot/frozen meal choices & daily or weekly deliveries; • Collaborate with hospitals & nursing homes to ensure that food & nutrition *Choices* are provided in discharge planning as part of comprehensive nutrition services including meals, individualized nutrition counseling for disease management with follow-up for care effectiveness.

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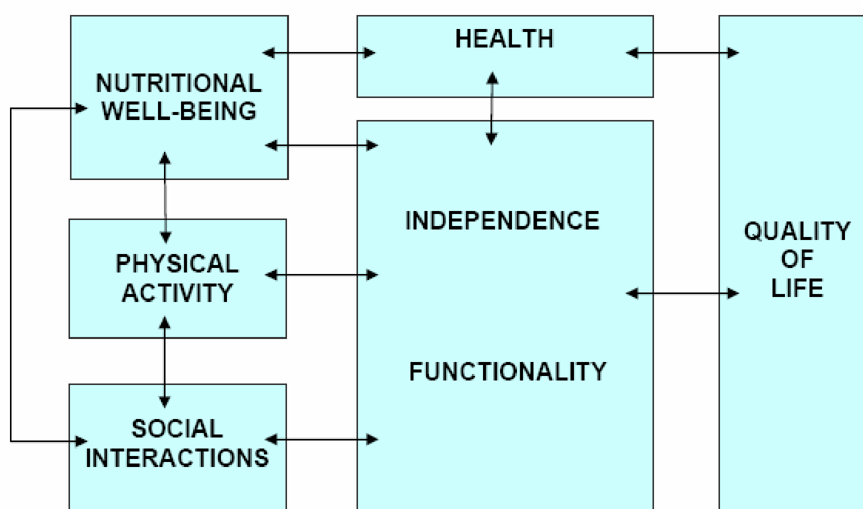
Older Americans: Making Food & Nutrition Choices for a Healthier Future

The Older Americans Act (OAA) Nutrition Program cost effectively helps older persons maintain their health and independence, fully engage in society and community life, and stay in their own homes and communities for as long as possible (1,2). The Nutrition Program supports the OAA vision and meets performance outcomes and indicators established by the US Administration on Aging (AoA).

Nutritional well-being, along with physical activity and social interaction, are essential to quality of life because they promote health, independence and functionality as shown in Figure 1 below (3,4). Research shows that a healthy diet and physical activity are more important than heredity in avoiding declines associated with aging (3). The multiple interrelated factors affecting nutritional well-being of older adults are depicted in Figure 2. Active engagement with life requires reducing or avoiding diseases and their related disabilities and preserving mental and physical functioning (5-8). Nutrition is central to health promotion, disease prevention and disease management as depicted in Figure 3. The impacts of poor diets and malnutrition on health and functionality are discussed later in this paper.



From: American Dietetic Association Position Statement: Nutrition, aging and the continuum of care. *J Am Diet Assoc*. 2000;100:586.

Figure 1. Simplified Model: Relationships of Nutritional Well-Being, Physical Activity, and Social Interactions with Quality of Life

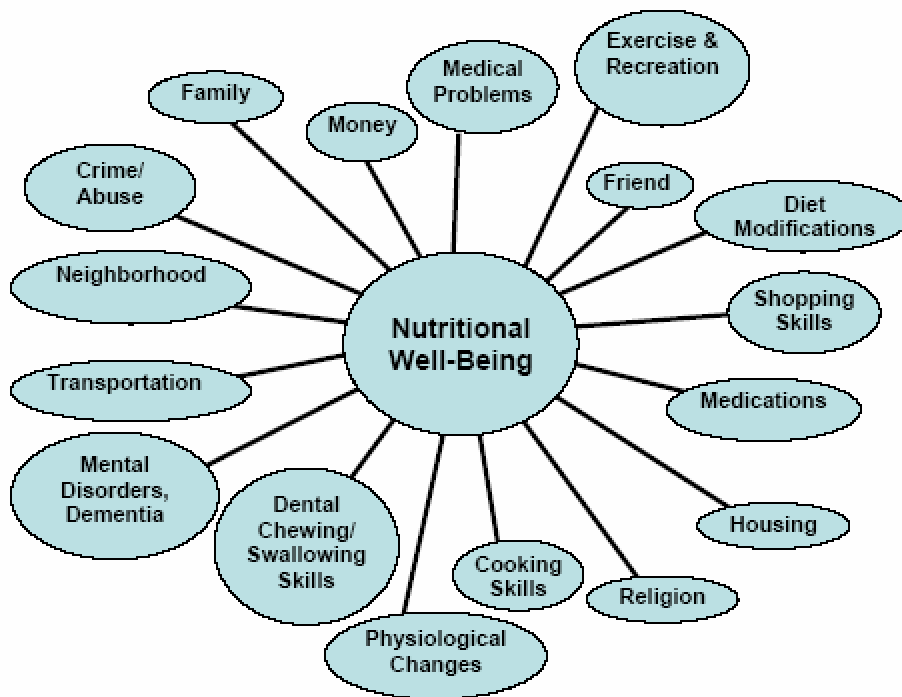


Figure 2. Inter-related Factors Affecting the Nutritional Well-Being of Older Adults

NUTRITION	Health Promotion	Disease Prevention & Risk Reduction	Therapy
Definitions	Prevent disease & disability by reducing or eliminating potential risk factors.	Lessen health risks by screening & early treatment before observable symptoms.	Remediate those with diagnosed health conditions.
Goals	Enhance / maintain wellness through behavioral or environmental changes.	Maintain / improve nutritional status &/or avoid illness among those susceptible due to genetics, lifestyle, age, etc	Prevent / delay disease progression, disability, pain, premature death.
Activities	Generalized education or facilitation of healthful diets.	Anticipatory screening, detection, early intervention.	Individualized nutrition therapy for acute conditions & chronic diseases.
OAA Nutrition Program Examples	• Nutrition education about timely nutrition topics • Interactive nutrition education sessions on healthy eating, food labels, food safety, & physical activity tailored to older adults & caregivers. • Provide One-Stop-Shopping to reduce nutrition risk & promote healthy eating via consumer-tested informational brochures, internet materials, evidence-based interventions, information about available food & nutrition services.	• Regular nutrition screening, nutrition education & nutrition counseling; • Referrals to programs that increase access to healthy food--Food Stamp Program, Senior Farmers' Market Nutrition Program, food banks	• Nutrition assessment • In-depth individualized nutrition counseling for disease management • Disease-specific group counseling sessions • Nutrition education & individualized nutrition counseling for specific diseases & conditions--Alzheimer's disease, hip fracture recovery

Figure 3. The Spectrum of Nutrition Services in OAA Nutrition Programs

Food, Nutrition and Health

Nutritious diets keep older adults healthier by reducing the risk of age-related conditions and chronic diseases as well as acute conditions (Figure 4). Without adequate healthy safe food and nutrition services, the consequences are dire because they diminish independence, cause disabilities, reduce quality of life and increase health care costs. Registered dietitians (RDs) were identified by the Institute of Medicine as the best qualified to provide the nutrition services that result in risk reduction, delayed disease onset and symptom management (5).

Nutrition is central to disease treatment and management. All top nine chronic diseases (heart disease, hypertension, stroke, emphysema, asthma, chronic bronchitis, cancer, diabetes, and arthritis) have dietary and nutritional implications. These in turn influence the ability to remain independent in the community (5,6,9-11). All are greatly exacerbated by malnutrition, either as obesity or underweight. Of these nine chronic diseases, heart disease, stroke, cancer and diabetes are the most common and costly (6). When coupled with obesity, they account for almost all Medicare spending over the last 15 years (12). Individualized nutrition interventions improve the efficacy and effectiveness of associated medical, pharmaceutical, and rehabilitative treatments. Additional information on select conditions that have direct health and nutrition implications is in the Appendix.

Without nutrition therapy and other long term care (LTC) services to support recovery from illnesses, individuals are at greater risk for premature nursing home placement and other poor and costly outcomes (Figure 4). For example, pressure ulcers are caused by malnutrition, unintentional weight loss and dehydration in combination. Although preventable, pressure ulcers occur in nursing homes and communities. Depending on their severity, pressure ulcers need aggressive nutrition therapy, medication management, nursing care and sufficient time to heal (13).

Figure 4. Impact of Poor Dietary Intake on Health
POOR DIETS
Inadequate or Excess Nutrients & Calories
AGE-RELATED CONDITIONS / DISEASES
Hearing Loss
Macular Degeneration
Other Sensory Changes
Oral Health Problems
Joint Disease: Knees, Hips
↓ Muscle Mass: Sarcopenia
Cognition
Mental Health
CHRONIC DISEASES
Heart Disease
Hypertension
Diabetes
Osteoporosis
Some Cancers: Colon, Breast
Arthritis
Chronic Obstructive Pulmonary Disease
Renal Disease
HIV/AIDS
ACUTE CONDITIONS
Dehydration
Pressure Ulcers
Pneumonia
Influenza
Infections
Fractures
Tooth Abscesses
Gum Disease
Without Adequate Healthy Safe Food & Nutrition Services:
Deafness, Blindness, Reduced Smell &Taste, Chewing & Swallowing Problems
Joint Destruction – Costly Replacements
Confusion, Forgetfulness, Memory Loss
Uncontrolled High Blood Pressure – Heart Attack, Stroke
Uncontrolled Diabetes – Amputations, Blindness, Nerve Disorders, Dialysis
Osteoporosis: Weakened Bones -- Decreased Mobility, Falls
Decreased Immune Response – Flu, Colds, Upper Respiratory Infections, HIV/AIDS
Decreased Organ Function & Organ Failure
Wasting – "Dwindles" or "Failure to Thrive"
Involuntary Weight Loss: ↓ Body Mass Index, ↓ Muscle Mass
Excessive Weight Gain -- Obesity
↓ Serum Albumin – Protein Malnutrition
Pressure Ulcers
Slower Recovery
Longer Hospital Stays
Hospital Re-Admission
Premature Institutionalization
Low Stamina
Depression & Anxiety
Poor Appetite
Sleep Disturbance
Increased Morbidity & Mortality
Reduced Quality of Life
Increased Dependence
Greater Healthcare Costs

Food, Nutrition and Functionality

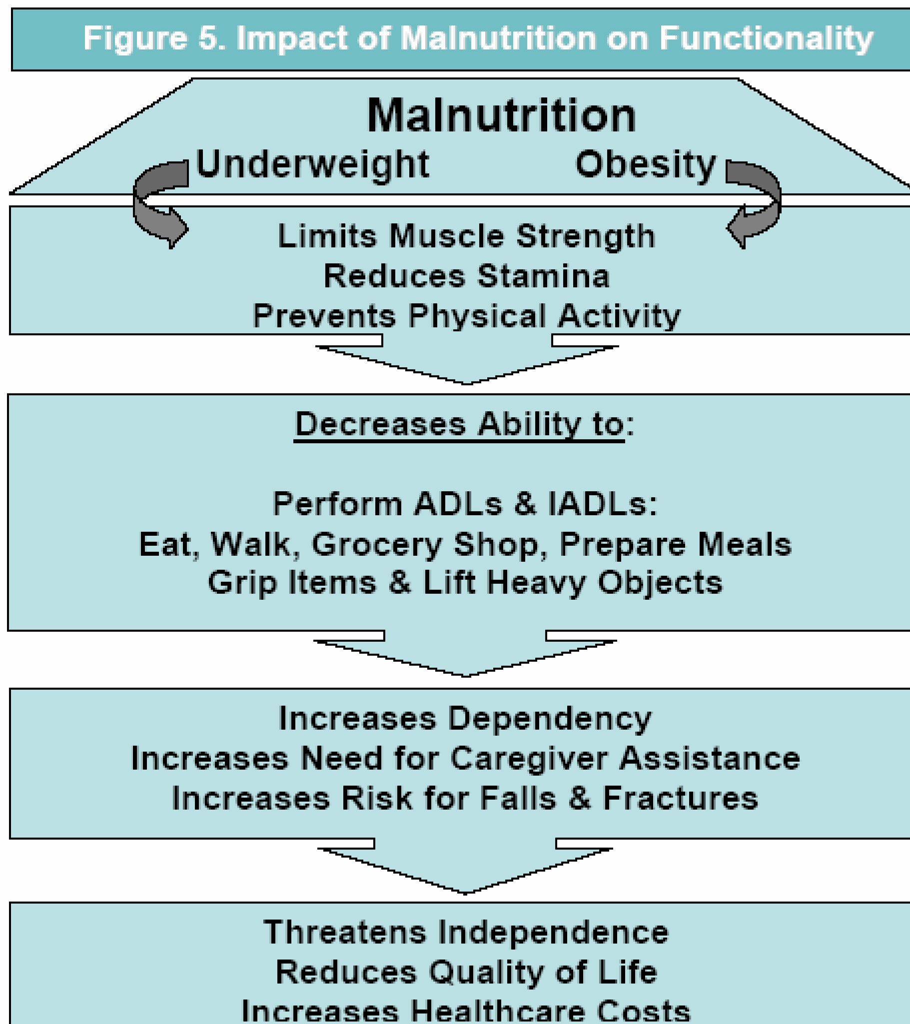
Malnutrition, including both underweight and obesity, is closely associated with decreased functionality (Figure 5). Thus, a primary goal of improving nutritional well-being through a healthy diet is to prevent the two serious conditions of underweight or obesity (5). Both have grave health consequences. They impede independent living because of the relationship to Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs) (6,14). Underweight and obese older adults need more caregiver assistance and are at greater risk for falls and hip fractures (6,8).

Obesity, the most common nutritional disorder, is a risk factor for the chronic diseases and disabilities in Figures 4 and 5, respectively (5,12). Obesity in the Medicare population grew from 12% in 1987 to 23% in 2002 (12). Simultaneously healthcare costs grew from 9% of the federal budget to 25%. Obese older adults are more likely to become disabled (15) and report ADL and IADL difficulties. They also report more feelings of hopelessness and sadness (16).

Underweight in older adults is often difficult to resolve. Chronic diseases, such as cancer, chronic obstructive pulmonary disease (COPD), and Alzheimer's Disease (AD), are risk factors themselves because the unintended undetected weight loss contributes to frailty.

Research shows independent relationships among frailty in under- and over-weight people and dietary quantity and quality (17,18). Low blood levels of vitamins B_6 and B_{12} and selenium predict ADL difficulties in community residing older women (18). Low dietary intakes of calcium, vitamin D, magnesium and phosphorus affect muscular and skeletal function and are associated with physical decline (14). These threaten independence, reduce quality of life, and increase healthcare costs.

A nutrition screening, assessment and intervention process detects and prevents malnutrition (5). The Nutrition Screening Initiative (NSI), a national partnership of health and social service organizations, promotes routine screening and intervention as a cost effective way to promote health, improve nutritional status and manage disease in older adults. Nutrition screening and targeted interventions reduce the costs associated with medications, hospital care and nursing home stays (16).



Food, Nutrition and Caregiving

Informal unpaid family caregivers are important in improving or maintaining the nutritional status of their care recipients. Informal caregivers provide the majority of care for underserved populations, including those in rural areas, those with dementia, and those in hospice. Caregivers prepare meals, assist with eating, and, when necessary, administer and monitor home enteral nutrition (tube feedings). Caregivers often do not have the skills or information needed to encourage eating, modify food texture, or evaluate the appropriateness of nutritional supplements. Nutrition education and individualized nutrition counseling for specific diseases and conditions (e.g., AD, hip fracture recovery) are needed (3). The responsibility of providing nutrition care and

sustenance adds to caregiver burden. Informal caregivers must be concerned with their own nutritional status as well (19). The stress of caregiving places them at malnutrition risk through skipped or unhealthy meals and inattention to management of their own chronic diseases or conditions. The OAA National Family Caregiver Support Program provides the opportunity to address the nutritional needs of caregivers and their care recipients (1).

Nutritional Well-Being and the Changing Long Term Health Care System

The OAA is the cornerstone of cost effective, comprehensive, coordinated, high quality, long term home and community based services. The Act and the AoA promote innovation to meet the changing needs of older persons. With increased emphasis on food and nutrition services, ongoing efforts will better serve the long term care needs and better manage the high costs of the fast growing, heterogeneous, multi-racial and ethnic population of adults aged 60+ and those of the baby boomers. Of Medicaid funds spent on older adults, 69% is for long term care. Facility based long term care accounts for 70% of Medicaid spending (20). To truly rebalance the present long term care system away from nursing home placement to one including home and community based care options, food and nutrition services must be fully integrated to avoid the devastating consequences of malnutrition.

AoA’s proactive strategic direction empowers and assists older adults to remain functionally independent at home. Its *Choices for Independence* (21) initiative is embedded in the OAA reauthorization (1). The Act promotes a rebalanced system away from the nursing home and facility based long term care model to a more cost effective home and community based model with a full array of programs to help older adults remain in their homes (1). The OAA authorizes the Assistant Secretary for Aging, State Units on Aging (SUAs), Indian Tribal Organizations (ITOs) and Area Agencies on Aging (AAAs) to develop and implement comprehensive, coordinated systems at federal, tribal, state and local levels. Older adults and families are empowered to choose from a full array of home and community options, services and providers to support their long term living (2,21). Food and nutrition services must be included in the full service array given their importance for successful aging.

These models increase consumer satisfaction and save money by lower use of high cost emergency rooms and institutional care (20). In fact, the South Carolina Lieutenant Governor's Office on Aging (22) uses evidence based research and modeling to identify service outcomes. It has documented the value of OAA services, including congregate and home delivered meals, in avoiding expensive inpatient hospital services. OAA clients had a significantly reduced rate of emergency department visits due to ambulatory care sensitive conditions (ACSC) including dehydration, pneumonia, etc., when compared with a matched sample of Medicaid clients. ACSC conditions are typically preventable or controllable and should not normally require inpatient or emergency care.

Another analysis compared intensity of OAA services between clients receiving 3 or more meals per week (higher intensity) with those receiving fewer meals (lower intensity). Those receiving 3 or more meals per week had significantly lower rates of ACSC related inpatient admissions than the lower intensity comparison group. With adjustments for race, gender, age and service durations, congregate clients who ate more meals per week had significantly fewer inpatient admissions and emergency department visits than those eating fewer meals. Home delivered meal clients receiving more meals per week also had significantly fewer inpatient admissions than the comparison group, but there was no effect on emergency visits. Although causality cannot be confirmed, the analyses are consistent with the Agency's original premise that OAA meal service results in reduced hospital or nursing home usage and costs. In South Carolina, the average cost of a year's worth of home delivered meals is $1,107 (FY 2004, FY 2005) compared to the $25,000-$37,000 average cost of a year's stay in a nursing home (FY 2005) (22).

AoA's *Choices for Independence* (21,23) initiative will: 1.) Empower consumers to make informed decisions about choices for long term living; 2.) Build prevention into community living through evidence based health promotion and disease prevention programs designed for older adults; and 3). Target high risk, nursing home appropriate, non-Medicaid or private pay individuals and delay institutionalization through *Choices* for home and community care to meet individualized needs and preferences without the current OAA service categories or titles restrictions (1,21,23).

Challenges and opportunities lie ahead. A philosophical and operational shift must be made from a provider/service driven model to one where consumers, families, and caregivers are empowered to make their own long term care decisions. Service providers need to ensure that their services are more client, caregiver, and family centered. Consumers will choose from a menu of long term care options and service providers. The OAA authorizes the AoA, ITOs, SUAs and AAAs to develop and implement a comprehensive State/Tribal system of long term care that provides client centered LTC at home in the community. AoA is providing guidance to assist SUAs/ITOs and AAAs with these aspects of *Choices* implementation. The recent *Choices for Independence: A National Leadership Summit* is an example (23). The purpose of the AoA Summit was to allow peer to peer exchange of best practice models, including models to improve service efficiency and effectiveness. Of particular interest, is the session on "Using Business Strategies for Nutrition Services" (24).

Participants and caregivers are very satisfied with today's OAA services (25). The OAA and its evidence-based nutrition services have the experience, network and programs in place to become a model for a flexible, client and family-centered home and community service long term care system. It is visible, creditable and trusted. Older adults and families turn to it for top quality, accurate information; appropriate, safe services; and competent providers to serve long term living needs.

Food and Nutrition for Frail Older Adults

Food and nutrition services will differ as SUAs, ITOs, AAAs and local providers balance the needs of today's older adults, including the fast growing 85+ segment with those of the more independent, mobile and younger group. Clients will be increasingly diverse with respect to severity of impairments, information and referral needs, mix of nutrition interventions needed, health/medical/social services needed as well as the array of Health Promotion and Disease Prevention (HPDP) community programs (25,26).

ITOs, SUAs, AAAs and local nutrition providers need to understand the implications for malnutrition risk in older adults and be prepared to address them. The Aging Network will continue to target and serve an increasingly frailer, impaired and

more underserved populations. For example, without OAA home delivered nutrition services, about 30% of participants receiving home delivered meals were impaired to the extent that they were eligible for more costly nursing home placement (27). If these individuals had been in nursing homes, regulations require they be carefully monitored for malnutrition risk, evaluated for declines in nutrition status, and have a documented care plan to prevent deterioration.

Even with serious impairments and chronic conditions, older adults prefer to be at home rather than in a nursing facility. Thus, the OAA Aging Network, including registered dietitians at state, tribal and local levels, becomes the first line of defense in monitoring malnutrition risk and implementing care plans to improve nutritional status, manage chronic conditions and prevent obesity and unintended weight loss. State and local area plans should include nutrition expertise to provide for the diverse nutritional needs of consumers and families as the rebalanced long term living system is brought into place.

The OAA Nutrition Program in Home and Community Based Long Term Care

The OAA Nutrition Program, the nation's largest food and nutrition assistance program targeting older adults, faces both challenges and opportunities as a central element in the rebalanced home and community based LTC system. This popular grassroots consumer-oriented Nutrition Program can be a model for AoA's *Choices* Initiative. The highly rated Nutrition Program is a key foundation service with a history of documented, substantial contributions to the health and social well being of its participants (27,28). It is well integrated into home and community settings through coordination with community partners. Its care planning process includes nutrition screening, nutrition education, and nutrition assessment and counseling when appropriate (1,27,29). The OAA Nutrition Program goals are to reduce hunger and food insecurity; to promote socialization of older adults; and to promote the health and well-being of older adults by assisting them to gain access to nutrition and other disease prevention and health promotion services to delay onset of adverse health conditions resulting from poor nutritional health or sedentary behavior (1).

The OAA Nutrition Program must by law adhere to the latest edition of the *Dietary Guidelines for Americans* (*DGAs*) and use the newest nutrient requirement knowledge and guidance (7). The *DGAs* make specific quantitative recommendations regarding nutrients and food components, and emphasizes a healthy weight and physical activity. The Dietary Reference Intakes (DRIs) emphasize that older adults have specific nutrient requirements due to the aging process (30). The DRIs help prevent nutritional deficiency, reduce the risk of chronic diseases and improve health over the long run.

Thus, the OAA Nutrition Program providers including RDs must tackle the double risks of consumers' loss of independence and lessened quality of life. The double risks may be in part caused by: 1.) inadequate food and nutrient intakes (unintended weight loss leads to pressure ulcers); and 2.) poor dietary compliance (uncontrolled diabetes leads to blindness and amputations). The OAA Nutrition Program is at the front line of prevention by providing clients with: 1.) safe nutritionally adequate meals, and nutrition and physical activity guidance for healthy lifestyles; and 2.) nutrition risk screening, assessment, education and counseling to effectively manage chronic disease. For example, when diabetes is coupled with inactivity, it results in a more than 4-fold increased risk of future nursing home admission (31).

Anyone aged 60+ may enjoy a meal at a senior center or congregate site. Older persons and their families can call the National Eldercare Locator (1-800-677-1116) for information and referral. Unfortunately, given the demand, immediate access to home delivered meals and other in-home services may often be delayed because of waiting lists.

The *Second National Pilot Survey of Older Americans Act Title III Service Recipients* (28) shows that the Nutrition Program successfully targets the vulnerable and frail including the underserved, those of minority status, those residing in rural areas and those with limited access to food. The Home Delivered Nutrition Program serves the frailest and most functionally impaired. This important social community link delays institutionalization. Participants age 75 and older comprise 73% of home delivered and 62% of congregate Nutrition Program clients. Over half of all participants live alone, including 61% of the homebound. About 70% of the homebound have

difficulty with one or more ADLs and 30% have 3 or more ADL limitations. The latter qualifies them as needing nursing home level of care -- a care level that indicates significant frailty.

The mid-day meal provides half or more of the day's total food intake for 66% of home delivered and 56% of congregate Nutrition Program participants. Program meals improve intakes of fruits, vegetables, and dairy products. Participants have healthier diets in comparison to other older adults. The meal is often the sole source of nutrients from key food groups for one- to two-thirds of participants. Participants value the Nutrition Program because it enables them to eat more balanced meals and avoid sodium and fat. Almost 95% rate meals good to excellent and about 90% are satisfied with the food taste and its on-time home delivery. Over half of congregate clients participate in fitness activities, use health screening and have increased social opportunities (28). The congregate Nutrition Program helps participants remain independent and engaged though meals, culturally appropriate nutrition education and physical activity and social interaction.

The OAA Nutrition Program's grassroots approach and infrastructure has long provided consumers and families with a comprehensive array of popular consumer-driven evidence-based services including food and nutrition choices to meet the nutrition needs of older adults as shown in Figure 6. Many states include HPDP and nutrition services in their HCB LTC systems funded by federal, State, Tribal, and local sources. The AoA *Choices* initiative includes a similar array of home and community services to support long term living, such as Medicaid Waiver services to delay nursing home placement (32).

The Nutrition Program adheres to a continuous quality improvement process, to the latest scientific evidence, and to the highest performance standards. Mechanisms are in place to measure customer satisfaction, analyze dietary intake, assure nutritional quality and safe food, assure families, and adhere to consistency of standards. It also provides appropriate training and guidance on nutritional aspects to case managers as they assess need for services, training for homemakers and personal care assistants in appropriate shopping and meal preparation and modification, and for family primary caregivers to help them provide adequate nourishment for care recipients and

themselves. This assures older adults, their families, federal, SUA, ITO and AAA decision makers and grantors that a process is in place to provide services that are safe, comprehensive and scientifically sound.

<table>
<tr><th colspan="3">Choices in Consumer-Driven, Evidence-Based Food & Nutrition Services
in Older Americans Act Nutrition Programs</th></tr>
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• Interactive nutrition education sessions on healthy eating, food labels, food safety & physical activity tailored to older adults & caregivers;
• In-depth individualized nutrition counseling for chronic disease management;
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• Include 2-3 key nutrition questions on the uniform I&R/assessment forms to prioritize referrals to nutrition services & interventions--healthy meals, nutrition counseling, family caregivers support;
• Reduce malnutrition & hunger via I&R to food assistance programs (Food Stamp Program, Sr Farmers' Market Nutrition Program, food banks);
• Ensure food & nutrition needs are met in Medicaid Waiver or state/tribal funded HCB service options by greater availability of nutrition services & nutrition expertise;
• Inform consumers about possible private pay options for food & nutrition services.</td><td>• Regularly offer nutrition screening, nutrition education & nutrition counseling;
• Provide integrated, evidence based HPDP nutrition & physical activity programs;
• Provide I&R for consumers & families about local evidence based HPDP programs such as chronic disease self management; mental health; falls prevention; immunizations;
• Partner with HPDP programs to increase accessibility at senior centers & congregate dining sites;
• Offer Choices of appropriate HPDP programs to homebound consumers.</td><td>• Train case managers & other gatekeeper assessors to screen for nutrition risk & identify the need for referral to food & nutrition services, & to RDs for nutrition assessment, diagnosis, treatment, care planning & monitoring;
• Provide food & nutrition Choices in home delivered meals including special diets, texture modifications, hot/frozen meal choices & daily or weekly deliveries;
• Collaborate with hospitals & nursing homes to ensure that food & nutrition Choices are provided in discharge planning as part of comprehensive nutrition services including meals, individualized nutrition counseling for disease management with follow-up for care effectiveness.</td></tr>
</table>

Figure 6. *Older Americans: Food & Nutrition Choices for a Healthier Future*

Recommendations for Food & Nutrition *Choices* in the OAA Nutrition Program

The *Choices* initiative encourages a seamless, coordinated, comprehensive home and community based system. Through *Choices,* the aging network can overcome service gaps that occur when federal, state and local agencies offer different services with varying eligibility requirements, levels of intensity and funding mechanisms. *Choices* and the OAA Nutrition Program can assist in ending the gap in food and nutrition services. Too frequently, food and nutrition are viewed as two separate non-intersecting parallel systems: 1.) food as part of a social and supportive services system; and 2.) nutrition as part of a medical problem-oriented treatment. The Nutrition Program holistically addresses both as they impact consumers and families.

Older adults willingly make nutrition related lifestyle changes when information is relevant to their needs and they understand how to make the changes (33). The *Choices* initiative extends the OAA Nutrition Program's health and independent living services to new groups of older adults, families and caregivers. *Choices* allows SUAs, ITOs, AAAs and local providers the flexibility to provide information and referral services, long term living options, and HPDP programs specific to the needs of their older populations. They should collaboratively develop their plans around consumer-driven nutrition outreach, messages and services. OAA Nutrition Program RDs are needed to train case managers, other service professionals, food service workers, homemakers, and personal assistants regarding food safety, to supervise nutrition care, and to measure outcomes and quality indicators. SUAs, ITOs, AAAs and local providers can integrate and coordinate services in Titles III and VI, Medicaid Waiver, Food Stamps, and other State or Tribal funded programs to more cost effectively reduce nutrition risk, malnutrition and hunger.

Figure 6 describes the food and nutrition services that contribute to health and independence and coordinate with *Choices* goals. Nutrition Program components can and should be integrated into the *Choices* home and community long term living system as illustrated. A Practical Handbook titled, Integrating Food & Nutrition Services into the US Administration on Aging's *Choices for Independence*, has suggestions for nutritionists and administrators in SUAs and ITOs (34).

The direct role of food and nutrition in promoting health, reducing risks, and managing chronic diseases is evidence-based. Science supports nutrition's essentiality in maintaining functional independence and protecting quality of life. These parallel the goals and services of the OAA Nutrition Program and cement its value as depicted in Figure 7. The OAA Nutrition Program's grassroots infrastructure is built upon community partners and consumers. It successfully meets client and caregiver needs through coordination of services, philosophies and funding mechanisms. The Aging Network can and should use its successful evidence-based Nutrition Program to implement *Choices for Independence*.

Adequate Healthy Safe Food & Meal Service to Decrease Food Insecurity	Nutrition Services for Health Promotion & Disease Prevention to Reduce Risk or Treat Acute & Chronic Diseases
• Provide tasty appealing meals that include ⅓ of the day's Recommended Dietary Allowances • Follow the *Dietary Guidelines for Americans* to Promote Health & Prevent Disease • Provide Foods ↑ in Calcium, Potassium, Vitamin D, Fiber & Protein • Provide Foods ↓ in Sodium, Fat, Excess Calories (when appropriate) • Provide Fruits, Vegetables, Whole Grains, Low-Fat Diary Products or Alternates. • Adhere to Local, State, Federal Food Safety Regulations • Provide meals to meet special dietary needs (health, religion, culture)	• Provide Nutrition Screening & Assessment • Provide Nutrition Education • Provide Individual & Group Counseling • Integrate Nutrition Services into Care Management • Link to Supportive Services & Food Assistance Programs • Integrate Nutrition & & Physical Activity into Wellness Programs • Partner with other Services (falls prevention, immunization, mental health). • Provide medical nutrition therapy with MD or health professional referrals.

Figure 7. Impact of Older Americans Act Nutrition Programs on Food Security, Health & Functionality

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Appendix

Dietary and Nutrition Interactions in Top Aging-Related Chronic Diseases and Conditions

Nutrition is central to chronic disease treatment and management. All top nine chronic health conditions in older persons have dietary and nutritional implications. Some conditions and their connections to nutrition are described below.

Heart Disease, Hypertension and Stroke: Strong evidence associates nutrition therapy with reduced risk and successful disease management including prevention of clinical episodes of coronary heart disease and stroke. Nutrition therapy for heart disease includes reduction in cholesterol and fat intake; for hypertension, reduction in sodium intake; for both, limited alcohol intake and weight reduction if needed. The Dietary Approaches to Stop Hypertension (DASH) diet and American Heart Association Guidelines emphasize healthy diets high in fruits, vegetables and low-fat dairy products.

Emphysema, Asthma, Chronic Bronchitis: These chronic lung diseases are associated with airflow blockage and breathing problems. Chronic obstructive pulmonary (lung) disease (COPD) includes emphysema and chronic bronchitis. Although its cause is tobacco related and asthma may also play a role, nutrition therapy is critical in managing the disease. An older person may be physically inactive and appear to eat enough. However, COPD increases metabolism and causes unintentional weight loss, despite the seemingly adequate diet. Nutrition screening and risk assessment considers appetite, breathing difficulties and hormonal changes. Dietary intake is monitored for nutrient adequacy and quality. Nutrition therapy includes calorie dense foods, altered mealtimes, frequent snacks and nutritional supplements. Nutrition therapy must be pro-active, given the frequent hospitalizations and need for post discharge home care. Nutrition therapy is frequently incorporated into a comprehensive rehabilitation plan that includes strength training and exercise.

Cancer: Diet is important in reducing cancer risk and in managing the nutritional problems associated with the disease and its treatment. Eating more fruits and vegetables reduces the risk of some cancers. Current recommendations are to maintain a healthy weight through diet and physical activity and to limit consumption of alcohol

which is associated with increased risk of oral, esophageal, liver and breast cancers. Obesity is associated with increased risk of colon cancer and, in post-menopausal women, breast cancer. Many older persons who have cancer have serious nutrition problems caused by the disease itself or its treatment. These include poor appetite, inadequate nutrient intakes and unintended weight loss. The development of a person/family centered individualized nutrition treatment plan and maintenance of optimal nutrition status for the individual can result in improved tolerance to treatment, recovery and quality of life.

Diabetes: Carbohydrate control and calorie control, if weight loss is warranted, is/are essential for diabetes management and in reducing risk of concomitant chronic conditions including cardiovascular disease. Research shows that a 5-7% weight reduction can delay development of diabetes even in obese individuals with impaired glucose tolerance. Ideally nutrition therapy begins at diagnosis. However, its effects are proven beneficial anytime during the disease process and refresher interventions are also effective. Medicare reimburses for individualized nutrition therapy as part of comprehensive multidisciplinary diabetes management that includes diet, exercise, medications, and blood glucose monitoring.

Arthritis: Risk factors for arthritis, a leading cause of disability among older adults, include obesity, age 50 or more, female, and post menopausal. Knowledge is limited about direct nutrition and arthritis relationships. There are reports that weight loss when indicated alleviates symptoms. Medications should be evaluated to determine drug/nutrient interactions which may affect nutritional status. Adaptive devices to assist with meal preparation and eating help improve food intake and nutritional status.

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