Position of The American Dietetic Association: Nutrition, aging, and the continuum of care

Nutritional well-being is integral to successful aging. Successful aging, in turn, results from a broadly defined continuum of care that promotes quality of life, independence, and health. Medical and other supportive services, including food and nutrition services, that are appropriate to levels of dependency, diseases, conditions, and functional ability are key components of the continuum of care (Figure). The burgeoning elder population, changing concepts of aging itself, and dramatic changes in the delivery of health care accentuate the importance of food and nutrition as sustenance as well as in disease prevention and therapy.

POSITION STATEMENT
The American Dietetic Association supports comprehensive food and nutrition services for older adults as an integral component of the continuum of care.

PROFILE OF OLDER ADULTS
This section provides an overview of the current status of the elderly population in the United States. These facts demonstrate the urgency of developing a comprehensive strategy for ensuring the health and well-being of this growing population.

Demographics
In 1994, more than 33 million adults (13% of the American population) were aged 65 years and older; by 2030, this number will increase to 70 million (20% of the population) as baby boomers age (1). Subgroups of the older adult population are typically categorized as the young-old (65-74-year-olds); the old (75-84-year-olds); and the oldest old (those aged 85 years and older), which is the most rapidly growing group. Another category often used for comparative purposes is persons approaching the older ages (55-64-year-olds) (2). Older minorities will increase from 13% in 1990 to 25% of older adults in 2030. Currently, California, Florida, New York, Pennsylvania, Texas, Ohio, Illinois, Michigan, and New Jersey each have more than 1 million older residents; this number is expected to increase dramatically in the 21st century (1). With life expectancy at 79 years for women and 72 years for men, older women are increasingly outnumbering older men, especially among the oldest old. Older women are three times as likely as men to be widowed, and 8 of 10 of the community-dwelling older persons who live alone are women.

Malnutrition Risk
Many older adults are at risk for malnutrition. Multiple and synergistic factors, including hunger, poverty, and anorexia nervosa or anorexia tardive, frequently precede malnutrition (3,4). Other malnutrition risk factors among older adults include inadequate food intake, social isolation, depression, dementia, dependency, functional disability, oral health and chewing and swallowing problems, presence of acute or chronic diseases or conditions, polypharmacy, and advanced age (5). An evaluation of the Elderly Nutrition Program of the Older Americans Act indicates that 67% to 88% of participants are at moderate to high nutritional risk (6). These community-based programs are finding serious nutrition-related problems among older adults, especially among the frail homebound. Many older adults have two to three diagnosed chronic health conditions; 26% of participants in congregate meal programs and 43% of those who receive home-delivered meals had a hospital or nursing facility stay in the previous year. One survey found that almost two thirds of respondents had a weight outside the healthful range and that 18% to 32% had involuntarily gained or lost 10 lb within the 6 months before the survey (6).

Food Security
Approximately 8% to 16% of older adults (2.5 to 4.9 million) experience food insecurity; in other words, they do not have access at all times to a nutritionally adequate, culturally compatible diet (7). Federal programs to combat hunger and food insecurity reach only one third of needy older adults (7). The Older Americans Act’s congregate and home-delivered meal programs and the US Department of Agriculture’s Food Stamp Program reach those with the highest rates of food insecurity, but fail to reach many who do not meet the income guidelines for food stamps or who will not accept aid because of its connotation as welfare. Many may be unaware of, are unable to get to, or are uncomfortable attending a congregate meal program, or no programs exist in their area. Additionally, they may fail to qualify or be placed on long waiting lists for home-delivered meals (6,7). To date, older adults have not been a primary focus of hunger advocacy groups, food banks, food pantries, and soup kitchens.

Poverty and Income Resources
Poverty is a strong indicator of malnutrition risk. Almost 20% of older adults are poor or near-poor; older women experience nearly twice the poverty rate of older men (1). Older adults who live alone or with nonrelatives, are from a minority group, reside in the South, did not complete high school, or are too ill or disabled to work are most likely to be poor (1). Even older adults who are not poor may live on a fixed income. As expenses increase, those older adults may opt to reduce their food intake, thereby placing themselves at risk for malnutrition. For example, when physical/mental impairments interfere with grocery shopping and cooking, elders may balance the resulting increase in food-related costs from delivery charges, use of more costly convenience and other special foods, and the higher price of restaurant meals by eating fewer

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meals. In addition, many older adults take an extensive number of costly medications; money spent for medications often reduces the amount of money available to purchase food.

Medical Expenditures
Older adults have major economic uncertainties in terms of health expenditures and longevity. Although the majority have access to health care through Medicare, Medicare does not pay all their health care costs. Access to affordable and continuous health care concerns persons approaching retirement as well as Medicare and Medicaid beneficiaries. Third-party payers emphasize use of managed-care delivery systems to contain escalating health care costs for older persons (8). Medicare beneficiaries now have a choice between the traditional fee-for-service or enrollment in a Medicare-approved health maintenance organization (HMO). In the traditional Medicare option, participants are generally required to pay premiums, copayments, and deductibles and are not reimbursed for prescription drugs, preventive care, dental care, and long-term care. Medicare HMOs must include all the traditional Medicare benefits and, depending on the plan, offer limited or no copayments, coverage of prescription drugs and physician visits, and primary and preventive care (8, 9).

Nutrient Needs
Physiologic and functional changes during aging result in changes in nutrient needs (10). Altered ability to taste and smell, poor oral health, dysphagia, and/or failure-to-thrive syndrome (ie, nonspecific symptoms associated with deteriorating mental status and functional ability, social isolation, and decreased food intake) can contribute to decreased nutrient intake, involuntary weight loss, and malnutrition (11-13). The current Recommended Dietary Allowances (RDAs) do not provide separate recommendations for persons older than 51 years and, thus, do not take into account that older adults have special nutrition needs (14). For example, although vitamin A needs decrease with age, which makes toxicity from supplements more common, other nutrient needs may increase. In addition, protein requirements for older adults exceed current RDAs (1.0 to 1.25 vs 0.8 g/kg body weight, respectively) (15). Morbidity and mortality increase with protein-energy undernutrition (ie, no overt clinical signs of malnutrition), low serum levels of albumin and/or thyroid hormones, and hypothermia. Vitamin D serum levels may be reduced even with adequate sunlight exposure, and deficiency may be exacerbated by homebound status, sunblock use, poor dietary intake, decreased capacity to synthesize cholecalciferol in the skin, and decreased number of gastrointestinal receptors (3, 16). Fracture rate increases, especially among older African Americans, when vitamin D levels are low (3). Vitamin D and calcium supplementation may reduce the incidence of hip fractures and increase bone density (17).

Metabolic and physiologic changes that affect the status of vitamin B-12, vitamin B-6, and folate may alter behavior and general health, whereas adequate intake of these nutrients prevents some decline in cognitive function associated with aging (18). Deficiencies of these nutrients, along with insufficient intake of vitamin C and riboflavin, may result in poor memory (18). Very low cholesterol levels (<4.16 mmol/L) may be predictive of mortality (19) and future cognitive dysfunction (3). Although current research does not directly implicate nutrition, there may be an association between unexplained

1To convert mmol/L cholesterol to mg/dL, multiply mmol/L by 38.7. To convert mg/dL cholesterol to mmol/L, multiply mg/dL by 0.026. Cholesterol of 5.00 mmol/L = 193 mg/dL.

Case management A system for assessing, planning treatment for, referring, and monitoring patients to ensure the provision of comprehensive and continuous service and the coordination of payment and reimbursement for cost of care (8).

Continuum of care A coordinated system of settings, services, providers, and care levels within which health, medical, and supportive services are provided in the appropriate care setting (eg, acute, subacute, ambulatory, community, and day care; hospice, respite, retirement, and continuing care communities; and group housing, assisted-living, home care, and traditional nursing home facilities). Ideally, the older person moves according to need to different sites and services with strong continuity of care within the system.

Continuum of health care An integrated delivery system that provides its patients with access to all services needed for health care. The patient is allowed to move to different sites and services in the system to ensure strong continuity of care. The continuum of health care includes physician services, emergency services, acute care, subacute care, skilled nursing facilities, outpatient centers, home care programs, day treatment programs, adult day care, assisted-living facilities, mental health services, and family/community supports (8).

Long-term care Assistance expected to be provided over a long period to people with chronic health conditions and/or physical disabilities who are unable to care for themselves without the help of another person (9).

National Aging Services Network The Administration on Aging administers the Older Americans Act through a network consisting of 216 tribal and native organizations, 57 state agencies on aging, approximately 660 local area agencies on aging, and several thousand organizations that provide direct services to older persons. Institutions of higher education receive funding to provide information, training, and technical assistance to the network as well as to conduct research and build knowledge. The National Aging Services Network is mandated to establish a system and provide comprehensive, coordinated in-home and community-based services (29).

§1115 (a) Medicaid waiver Waiver under the Social Security Act that allows a great deal of flexibility through demonstration projects for designing eligibility standards and arranging reimbursement mechanisms in providing acute-care and long-term care services under Medicaid (9).

§1915 (c) Home and community-based Medicaid waiver Waiver under the Social Security Act that allows states to use Medicaid funds to provide in-home and community-based services, previously not covered by Medicaid, to a specific caseload of persons who are aged or disabled and nursing facility certified (9).

Definitions and descriptions related to services for older adults.

weight loss and Alzheimer's disease (20). The antioxidants α-tocopherol, beta carotene, and ascorbic acid may affect visual capacity, that is, cataract formation (21) and macular degeneration (22). Likewise, immune function affected by nutritional status may be improved by supplementation of protein, vitamin E, zinc, and other micronutrients (10, 18, 23). Nutritional well-being as well as exercise and resistance weight training affect functional ability of older adults to perform the activities of daily living (24, 25).
Dehydration, a major problem in older adults, especially the oldest old, blacks, and men, substantially increases Medicare costs and results in death within a year of admission for nearly half of the elderly hospitalized Medicare patients (26). Dehydration risk increases because of the kidney's decreased ability to concentrate urine, altered thirst sensation, decreased renin activity and aldosterone secretion, relative renal resistance to vasopressin, changes in functional status, delirium and dementia, medication side effects, and mobility disorders (27). Fear of incontinence and increased arthritic pain resulting from numerous trips to the toilet may also interfere with consumption of adequate fluid intake.

AGING AND THE CONTINUUM OF CARE

Automatically assuming that advanced age and increased frailty coexist denies the heterogeneity among older adults. Poor health is not as prevalent as many assume; in fact, 75% of the community-dwelling young-old consider their health to be good. Only 1% of the young-old live in nursing facilities compared with about 24% of the oldest old. Among community-dwelling older adults, 9% of the young-old and 50% of the oldest old need assistance with the activities of daily living (1). Today, older adults themselves, the increasing numbers of adult children caregivers, and federal and state agencies want a choice among a variety of long-term-care options because of quality-of-life and cost issues.

The term “aging in place” has many definitions and does not necessarily mean aging in one setting or in one’s own home until death. Ideally, aging in place offers choices from a spectrum of living options and services to accommodate those who have no impairments, those who require limited assistance, and those with more severe impairments who require care in a nursing facility. Options that enable an older person to continue to reside in the community include private residences, adult continuing care (or life care) retirement communities, assisted-living facilities, group housing, and adult day care.

An integrated continuum of seamless, coordinated medical and supportive services facilitating movement of older persons among community, acute, and long-term care sites is needed, yet is still uncommon. Routine provision of food and nutrition services across this continuum is incomplete. Currently, medical and social supportive needs are served through two separate parallel systems, resulting in fragmented provision and continuity of care.

Older persons receive medical care for acute and chronic diseases in a variety of settings — acute, subacute, skilled nursing, rehabilitation, community health, home care, adult day care, life care, assisted-living, and nursing facilities — and not necessarily in a particular order (28). Older adults are being discharged earlier from acute-care and long-term-care facilities with the expectation that meals and additional services, such as follow-up care, will be provided in the home and community.

The National Aging Services Network mandated by the Older Americans Act delivers supportive in-home and community-based services to delay or prevent placing persons with impairments in nursing facilities (29, Figure). These services, which include home health, personal care, homemaker support, adult day care, respite care, assisted transportation, and home-delivered meals (30), vary nationwide and are usually charged on a sliding fee scale. In-home and community-based services have expanded to include medical and preventive health in addition to supportive services; however, to date, nutrition services, other than congregate and home-delivered meal programs, have not routinely been included. Because medical and social supportive delivery systems frequently function separately, duplication of effort and unmet needs often result.

Many states, burdened by rising Medicaid long-term-care costs, are seeking ways to delay placing elders in nursing facilities by enrolling Medicaid beneficiaries in HMOs (9) and by using Medicaid waivers to provide necessary home- and community-based medical, social, and supportive services (Figure). Some states include home-delivered meals and medical nutrition therapy as part of waiver services (30).

To reduce fragmentation, duplication, and costs of care, federal and state initiatives are beginning to integrate acute and long-term care into a single capitated managed care package that combines medical and supportive services. Federal demonstration projects include the Social Health Maintenance Organizations and the Program of All-inclusive Care for the Elderly program (9). These alternatives are positive steps toward achieving a seamless continuum of care for older adults. Whether they are less expensive than traditional nursing home placement is presently unknown.

COMPREHENSIVE FOOD AND NUTRITION SERVICES ACROSS THE CONTINUUM OF CARE

Food and nutrition services belong in the integrated interdisciplinary continuum of care that is evolving because they are unique in both a medical and a social context. Within this continuum of care, the psychosocial aspects of food and meals must be combined with the preventive/therapeutic aspects of medical nutrition therapy to achieve or maintain nutritional well-being. Nutrition services should be designed to respond to the changing physiologic, mental, functional, and socioeconomic capabilities of older adults. The social and nurturing aspects of food enhance quality of life and become even more important as preventive and therapeutic effects of food and nutrition may begin to diminish with age (31).

The continuum of food and nutrition services needed by older adults includes assessment and treatment options encompassed by medical nutrition therapy, from screening to in-depth nutrition assessment, from provision of meals to nutrition education and individualized counseling, and from nutrient and texture modifications (at times via medical food and food for special dietary uses) to enteral and parenteral infusion therapy in all settings from home and community to hospitals and long-term-care facilities (32). Medical nutrition therapy, when provided in accordance with practice guidelines, contributes to increased physical mobility, mental alertness, and cognitive function; aids in the management of acute and chronic diseases; reduces medical and surgical complications and infections; promotes faster wound healing; and prevents or delays clinical complications of certain diseases in acute care, rehabilitation, or ambulatory clinics, nursing facilities, and home and community settings (33-35). Food and nutrition are also important in palliative hospice care for persons with a terminal illness (36).

Mirroring the shift of medical service delivery into home and community settings, medical nutrition therapy for older adults with acute and chronic conditions is also moving from hospitals to home and community settings, often before a patient has recovered completely. Today, more needy, frail, and debilitated older adults need medical nutrition therapy outside of hospitals. As a result, an array of intensive services, including requisite medical nutrition therapy, must become more available in home and community settings to facilitate recovery of these nutritionally compromised persons. Such comprehensive clinical, cognitive, social, and nutrition services encompass the management of transition feedings, enteral and parenteral therapies, feeding complications, dysphagia, and
hydration (37). The effectiveness of medical nutrition therapy in speeding wound healing related to pressure sores (35) and recovery from hip fractures (38) is documented. Interdisciplinary practice guidelines attest to the importance of nutrition care (35,39-41).

An example of emerging coordination of services is demonstrated by the fact that many older persons who have been recently discharged from acute-care settings receive home-delivered meals, yet at least 41% of Elderly Nutrition Programs have waiting lists for home-delivered meals (6). The cost of providing a nutritious home-delivered meal to a person for 1 year equals the cost of one in-hospital day (34). Therefore, it is important to be aware that many of these older adults are potentially at risk for malnutrition.

Good nutritional status in older adults benefits both the individual and society: health is improved, dependence is decreased, time required to recuperate from illness is reduced, and utilization of health care resources is contained (34,42). Nevertheless, in older adults, improvements in frailty and limitations in one or more of the activities of daily living may not always result in improved economic outcomes (3). There are other ways to measure outcomes besides cost savings, however. Food and nutrition may add an important dimension to quality of life, and improving or maintaining quality of life is a viable outcome especially for older adults (31,43).

Today, continuity of care is provided through interdisciplinary care or care management. Medical nutrition therapy helps improve outcomes most effectively when it is integrated into comprehensive interdisciplinary care management. In case management, costs are overseen and services are coordinated from different funding streams. Case management begins with a comprehensive screening and assessment and draws together information about the medical, nutritional, mental, socioeconomic, and functional activities of daily living as well as the ability to eat, shop, and prepare meals. After a patient’s problem is identified, a care plan is developed that coordinates appropriate treatments and maintains continuity of care through periodic review and modification. The interdisciplinary process often uses care conferences and includes older persons themselves, families, and caregivers. Nutrition screening and assessment and food and nutrition services are integrated into the process (44). Cross-functional and/or interdisciplinary teams minimize duplication of tasks and improve decision making, access, delivery of services, and outcomes (37,45).

Although it is not case management per se, discharge planning also coordinates institutional and noninstitutional care. Many interdisciplinary opportunities exist to merge food and nutrition services into continuity of care. Similar to the 1996 Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards for nutrition services in long-term care settings (28), the 1995 JCAHO accreditation process for home health agencies that offer nutrition services specifies that nutrition screening of patients must occur before or at admission and that screening must be followed by coordinated food and nutrition services for those at nutritional risk (46).

Nutrition screening and assessment evaluate the multifaceted nature of malnutrition. First, nutrition screening identifies those with poor nutritional status and those at nutritional risk. A comprehensive nutrition assessment is then used to probe further into the patient’s anthropometric, biochemical, clinical, dietary, psychosocial, economic, functional, mental health, and oral health status. The complete assessment is the basis for the development of a care plan (32).

The interdisciplinary care plan synthesizes all risk indicators and factors to identify desirable outcomes. Appropriate interventions must be selected, prioritized, and implemented. Potential interventions must be multidisciplinary in scope (5). Food and nutrition interventions include congregate or home-delivered meal programs; nutrition education; diet modification and nutrition counseling; and specialized medical nutrition therapies, including supplementation with medical foods and enteral and parenteral nutrition (34). Periodic reevaluation of the plan monitors a patient’s progress toward the desired outcomes to ensure continuity of care.

FUTURE DIRECTIONS FOR DIETETICS PROFESSIONALS

Dietetics professionals must move forward individually and collectively to position food and nutrition services within the continuum of elder care. Local networks, including every setting and dietetics practice specialty, should share information and make referrals to establish community-institutional linkages and to coordinate improved care for older adults. Data can be collected and used to further demonstrate to policy makers the value of food and nutrition services.

Dietetics professionals can strengthen the continuum of care for older adults in their facilities and communities through proactive involvement, coordination, and debate. Dietetics professionals can enhance the nutritional status of older adults by:

- implementing appropriate elder-centered nutrition practice guidelines and standards of practice for gerontological nutritionists that are matched to the home, community, and/or institutional care setting(s) (35,39-41);
- positioning nutrition services realistically and flexibly within the rapidly changing delivery of medical, health, and supportive services;
- advocating (and volunteering) to alleviate elder poverty, hunger, and malnutrition in communities and through legislative processes;
- networking in their communities across dietetics specialties and practice settings and with colleagues in interdisciplinary fields to bridge gaps in elder care;
- integrating comprehensive coordinated nutrition services for older adults into the care provided in acute, subacute, nursing facility, home, or community settings, aging network programs, and/or managed care organizations;
- participating as an active essential team member in care management, discharge planning, and/or case management; and
- documenting and promote the vital nature and cost-effectiveness of the provision of appropriate nutrition services to quality of life and independence of older adults.

References

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