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Serving Elders at Risk The Older Americans Act Nutrition Programs: National Evaluation of the Elderly Nutrition Program 1993-1995

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I. INTRODUCTION

With the aging of the U.S. population, increased attention has been given to designing efficient and effective systems for delivering health and related services to older people. Of particular concern is the development of service networks that can provide elders with a continuum of home and community-based long-term care, to allow them to avoid unnecessary and costly institutionalization.

One very important component of any overall package of home- and community-based services for elderly people is the provision of comprehensive nutrition services. Adequate nutrition is critical to health, functioning, and quality of life for people of all ages. For elderly people, nutrition can be especially important, because of their vulnerability to health problems and physical and cognitive impairments. Key nutrition services include nourishing meals, as well as nutrition screening, assessment, education, and counseling, to ensure that older people achieve and maintain optimal nutritional status.

This report summarizes the results of a comprehensive evaluation of the largest U.S. community nutrition program for older persons, the Elderly Nutrition Program (ENP). The ENP, which serves the general elderly population under Title III of its authorizing legislation and Native Americans under Title VI, is authorized under the Older Americans Act and is administered by the U.S. Department of Health and Human Services (DHHS), Administration on Aging (AoA). The evaluation was conducted by Mathematica Policy Research, Inc., (MPR) in conjunction with MPR's subcontractor, the University of Minnesota. It was directed by three principal investigators, Michael Ponza and James Ohls of MPR and Barbara Millen, Associate Director for Research, Boston University Schools of Public Health and Medicine.

The remainder of this chapter provides an overview of the ENP and summarizes the research objectives of the evaluation.

A. OVERVIEW OF THE ELDERLY NUTRITION PROGRAM

The ENP is authorized under Title III and Title VI of the Older Americans Act (OAA). Through Title III, State Units and Area Agencies on Aging implement a system of coordinated, community-based services targeted to older individuals. Title III authorizes the provision of nutrition and supportive services, such as meals, nutrition education, transportation, personal and homemaker services, and information and referral. Similar nutrition and supportive services for elderly American Indians, Alaskan Natives, and Native Hawaiians are authorized separately under Title VI. The OAA has been amended frequently since the creation of the ENP in 1972. These amendments have added new responsibilities for agencies in the aging network and clarified responsibilities that were to have been performed under the original legislation.[1]

1. Title III Nutrition Services

Under Title III-C of the OAA, the AoA provides grants to State Units on Aging (SUAs) to support the provision of daily meals and related nutrition services in either group (congregate) or home settings to persons age 60 and older. The program specifically targets older people with the greatest economic or social need. In fiscal year (FY) 1994, OAA Title III-C funding for the ENP was nearly $470 million.[2] In that year, 127 million meals were served to 2.3 million people at congregate sites, and more than 113 million home-delivered meals were provided to 877,000 homebound elderly people.

Administration and Funding. Under Title III, SUAs receive federal grants for provision of congregate nutrition services (authorized under Part C-1), home-delivered nutrition services (authorized under Part C-2), and supportive services (authorized under Part B) from DHHS. Funds are allocated to

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[1]See O'Shaughnessy (1990) for a discussion of the program's legislative history.

[2]Nutrition-related and social support services, such as transportation to and from meal sites, shopping assistance, information and referral, case management, homemaker services and home health aides, outreach, and nutrition counseling and education, are also provided under Title III-B. Funding for these services, not all of which are directly related to nutrition, was $307 million in FY 1994.

states and territories according to a formula that is based on the state's or territory's share of the population aged 60 or older (as compared with all states and territories). The OAA also requires the U.S. Department of Agriculture (USDA) to provide SUAs with commodities or cash in lieu of commodities, the value of which is based on the annual number of meals served. (In FY 1994, USDA provided approximately $150 million in cash and commodity assistance to the ENP.) In the annual appropriations process, Congress allocates separate amounts under Title III for congregate nutrition services, home-delivered nutrition services, and supportive services. However, the actual amounts available differ from the initial appropriations because states are allowed, within limits, to transfer funds among various Title III components.[3]

SUAs distribute the funds to Area Agencies on Aging (AAAs), which administer the nutrition services program within their respective planning and service areas. AAAs receive funds from SUAs on the basis of state-determined formulas that reflect the proportion of older people in their planning and service areas (PSAs) and other factors. The AAAs award grants to and contract with nutrition projects to provide nutritional and supportive services in their planning areas. AAAs are often direct providers of nutrition services as well. In addition to receiving AoA funds, AAAs and nutrition projects receive financial support from state and local government, in-kind contributions, private donations, and voluntary contributions from participants. Congregate meals and supportive services are provided at nutrition projects' meal sites (such as senior centers, religious facilities, schools, public or low-income housing, or residential care facilities). Home-delivered meals are provided to homebound clients, either by the congregate meals sites, affiliated central kitchens, or nonaffiliated food service organizations.

AoA program data collected during the past 15 years show an increase in the number of Title III-C meals served. Most of this growth, however, occurred in the early 1980s. The total number increased by

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[3]No more than 30 percent of funds may be transferred between congregate (Title III-C1) and home-delivered (Title III-C2) nutrition services. The 1992 amendments stipulate maximum transfers between Title III-C funds and Title III-B funds be limited to not more than 25 percent in FY 1994 and FY 1995, and not more than 20 percent in FY 1996.

43 percent during the entire period between FY 1980 and FY 1994 (from 168 million to 240 million meals), but increased by only 7 percent between FY 1985 and FY 1994. There has been a continuing shift in services over time from congregate to home-delivered meals. Most of the program growth during the past 15 years can be attributed to the substantial increase in the number of home-delivered meals. The number of congregate meals served during FY 1994 was four percent less than the number served in FY 1980 (126.7 million and 132.0 million meals, respectively). In contrast, the number of home-delivered meals increased 210 percent during that time, from 36.4 million to 113.1 million. The percentage of total meals served as home-delivered increased steadily, from 22 percent in FY 1980 to 47 percent in FY 1994.

Eligibility. Persons aged 60 and older, and their spouses of any age, may participate in the Title III congregate program. In addition, the following groups may also receive meals: (1) disabled persons under age 60 who reside in housing facilities, occupied primarily by elderly people, in which congregate meals are served; (2) disabled persons who reside at home with, and accompany, older persons to meal sites; and (3) nutrition service volunteers. Title III home-delivered meals are available to homebound persons 60 years of age or older and their spouses (who may be younger than age 60) and disabled persons younger than age 60 living with elderly persons. Persons eligible for the home-delivered meal program may be homebound as a result of disability, illness, or isolation. The ENP does not have a means test, but services are targeted at older persons with the greatest economic or social need. Participants are not charged for meals but are encouraged to contribute toward the meal costs. However, participants cannot be denied meals or other services because of inability or an unwillingness to contribute.

Benefits and Participation. Congregate and home-delivered nutrition projects must offer at least one meal per day, five or more days per week (except in rural areas). Each meal must provide a minimum of one-third of the daily Recommended Dietary Allowances (RDAs) established by the Food and Nutrition Board of the National Academy of Sciences National Research Council. The meals must also comply with the *Dietary Guidelines for Americans*, published by the Secretaries of DHHS and USDA. In addition to

meals, nutrition service providers offer a variety of nutrition-related services, such as nutrition education and screening, shopping assistance, and health promotion activities.

2. Title VI Nutrition Services

ENP services are also authorized under Title VI of the OAA. The AoA awards Title VI funds directly to Indian Tribal Organizations (ITOs) from federally recognized tribes and organizations serving Native Hawaiians. Title VI has two parts: (1) Part A--American Indian and Alaskan Native Program; and (2) Part B--Native Hawaiian Program.

Administration and Funding. Title VI of the OAA established a grant program directly from the federal government to tribal organizations and other organizations to promote the delivery of nutrition and supportive services for older American Indians, Alaskan Natives, and Native Hawaiians. These services are to be comparable to those provided under Title III. ITOs and agencies serving Native Hawaiians receive grant awards directly from the AoA. These agencies typically administer the program as well as provide the services.

Grants are awarded to ITOs and other organizations on the basis of the number of elderly American Indians and Native Hawaiians represented by their respective agencies. In FY 1994, Title VI grants were awarded to 226 ITOs; one grant was awarded under Title VI-B, where the overall grants totaled $17 million. OAA provisions permit nutrition programs funded under Title VI to also receive donated dairy products and food commodities or cash in lieu of commodities from USDA. In FY 1994, Native American and Native Hawaiian grantees provided 1.3 million meals to 41,000 American Indian and Native Hawaiian congregate participants and 1.5 million meals to 47,500 American Indian and Native Hawaiian home-delivered participants.

Eligibility. Only federally recognized tribal organizations and nonprofit private organizations serving native Hawaiians are eligible for funding under Title VI. Additionally, to receive funding, ITOs and agencies representing Native Hawaiians must represent at least 50 individuals who are 60 years of age or

older. They must also demonstrate the ability to deliver nutrition and supportive services. Spouses of eligible American Indians, Alaskan Natives, and Native Hawaiians may participate, regardless of age. Unlike Title III, which requires participants to be at least 60 years old to receive services, Title VI allows ITOs and agencies serving Native Hawaiians to specify the minimum age (which generally ranges between 45 and 60) for participants to receive nutrition and support services.

Benefits and Participation. Title VI nutrition programs may provide congregate meals, home-delivered meals, or both. A hot or otherwise appropriate meal must be provided at least five days a week, unless the tribal organization can justify, on the basis of its needs assessment, fewer than five days a week. The meals may consist of cold, frozen, dried, canned, or supplemental foods. On average, each meal must provide a minimum of one-third of the daily RDAs established by the Food and Nutrition Board of the National Academy of Sciences National Research Council. The meals must also comply with the *Dietary Guidelines for Americans*, published by the Secretaries of DHHS and USDA. In addition to meals, nutrition service providers offer a variety of supportive services, such as nutrition education and screening, shopping assistance, and health promotion activities.

3. ENP Nutrition Requirements

The 1992 amendments to the Older Americans Act (P.L. 102-375, Section 339) require that meals provided through the ENP comply with the *Dietary Guidelines for Americans*, published by DHHS and USDA, and meet the Recommended Dietary Allowances (RDAs) as established by the Food and Nutrition Board of the National Research Council (NRC) of the National Academy of Sciences.

a. *Dietary Guidelines*

The *Dietary Guidelines for Americans* make seven broad dietary recommendations for persons age two and older to help them choose food for a healthful diet:[4]

1. Eat a variety of foods
2. Maintain healthy weight
3. Choose a diet with plenty of vegetables, fruits, and grain products
4. Choose a diet low in fat, saturated fat, and cholesterol
5. Use sugars only in moderation
6. Use salt and sodium only in moderation
7. If you drink alcoholic beverages, do so in moderation

In some of these recommendations, the *Dietary Guidelines* provide specific quantitative standards. In particular, the recommendation for the consumption of a variety of foods is specified in terms of a suggested number of daily servings from each of five basic food groups:

1. 3 to 5 servings of vegetables
2. 2 to 4 servings of fruits
3. 6 to 11 servings of breads, cereals, rice, and pasta
4. 2 to 3 servings of milk, yogurt, and cheese
5. 2 to 3 servings of meats, poultry, fish, dry beans and peas, eggs, and nuts

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[4]P.L.101-445, Section 3, directs the U.S. Secretary of Health and Human Services and the U.S. Secretary of Agriculture to issue, at least every five years, a joint report titled *Dietary Guidelines for Americans*. The guidelines discussed here are from the 1990 (third) edition of *Nutrition and Your Health: Dietary Guidelines for Americans*. The 1990 guidelines were reviewed recently by the Dietary Guidelines Advisory Committee. The committee concluded that the seven guidelines, as presented here, remain sound and of major importance in choosing food for a healthful diet, but it also suggested revisions for the forthcoming fourth edition of the *Dietary Guidelines, 1995*. See U.S. Department of Agriculture, Agricultural Research Service, Dietary Guidelines Advisory Committee (1995).

The *Dietary Guidelines* also make specific quantitative recommendations for the amount of total and saturated fat in diets:

- Intake of total fat should not exceed 30 percent of food energy (calories)
- Intake of saturated fat should be less than 10 percent of food energy (calories)

However, the *Dietary Guidelines* do not provide quantitative benchmarks for the intake of cholesterol, sugar, or sodium.

Compliance with the *Dietary Guidelines* is a new requirement for states, although some have encouraged nutrition projects to incorporate them for several years. The *Dietary Guidelines* have never before been included in program requirements, however.

b. Recommended Dietary Allowances (RDAs)

The NRC defines the RDAs as the levels of intake for essential nutrients that, on the basis of scientific knowledge, are judged by the Food and Nutrition Board to meet the known nutrient needs of practically all healthy persons (NRC 1989a, p. 10). The NRC sets age- and gender-specific RDAs for each nutrient. The RDAs are based on the needs of an average person of median height and weight within the specific age and gender population group.

The most recent RDAs provide guidelines for assessing the intake of energy and specified nutrients for adults up to age 50 and for those 51 years or older. Age- and gender-specific recommendations exist for the following essential nutrients: energy (calories); protein; vitamins A, D, E, K, C, B_6, B_{12}, thiamin, niacin, riboflavin, and folate; and the minerals calcium, phosphorus, magnesium, iron, zinc, iodine, and selenium. Guidelines on safe and adequate daily levels of other vitamins (biotin and pantothenic acid) and trace mineral elements (copper, manganese, fluoride, chromium, and molybdenum) are also provided.

ENP meals are required to meet the RDAs. Specifically, program meals provided to each participating older person must provide:

- A minimum of 33 1/3 percent of the RDAs if the nutrition project provides one meal per day
- A minimum of 66 2/3 percent of the RDAs if the nutrition project provides two meals per day
- 100 percent of the RDAs if the nutrition project provides three meals per day

Before the 1992 amendments, the ENP required that each meal contribute one-third of the RDA. For nutrition projects that provide more than one meal or eating occasion daily, the requirements now focus on the nutrient content of the total meal package rather than on each individual meal.

B. EMERGING ISSUES IN THE ENP

Older persons constitute a significant, growing percentage of the United States population. Currently, 17 percent of the population--or 42 million people--are age 60 or older (U.S. Bureau of the Census 1993). This percentage is expected to increase to approximately 25 percent (89 million people) by the year 2030 (Day 1993). The "oldest old"--those 85 years and older--and elderly nonwhites and Hispanics are expected to be the most rapidly growing segments of the elderly population in the next several decades. Between 1990 and 2030, the oldest old and the elderly Hispanic populations will nearly triple in size, and the elderly African American and other nonwhite populations will double.

Despite overall improvements in the economic status of elderly people in the past two decades, a substantial number of these people are poor--12 percent, or 4,901 million people in 1991 have cash income below 100 percent of the U.S. poverty threshold (U.S. Bureau of the Census 1993). A disproportionate number of the poor and near-poor elderly are women, minorities, those who live alone, and the oldest old. Moreover, these groups are expected to continue to have poor economic status for the next several decades (U.S. General Accounting Office 1986).

Proper nutrition is very important for elderly people. Nutritional status has been shown to affect the age-related rate of functional decline for many organs and to be a determinant of changes in body composition associated with aging, such as loss of bone and lean body mass (U.S. Department of Health

and Human Services 1988). Furthermore, diet and nutrition have been related to the etiology of many chronic diseases affecting elderly people, such as osteoporosis, atherosclerosis, diabetes, hypertension, and certain forms of cancer (National Research Council 1989b). A 1991 study showed that about 85 percent of older persons suffered from one or more of these nutrition-related chronic conditions; chronic disease risk is particularly pronounced in black and Hispanic elderly persons (Dwyer 1991). These chronic diseases have been shown to cause physical and mental impairments in elderly persons that threaten their independence, well-being, and quality of life.

The last reauthorization legislation for the OAA was signed into law in September 1992 (P.L.102-375). This authorization of the OAA programs expired at the end of FY 1995, but the appropriation is still being maintained. The following emerging and recurring issues make the current ENP evaluation particularly timely:

- ***Targeting program services to older persons most in need***--especially the lower-income elderly and groups that tend to have high proportions of low-income members, such as racial/ethnic minorities and socially isolated individuals
- The ***impacts of program components*** on participants' nutrition and socialization
- ***Program linkages with the long-term care system***
- ***Efficient and cost-effective program administration and service delivery***
- Nutrition quality assurance of the program--***service quality*** and promotion of ***food sanitation and safety***
- ***Fund transfers*** between Title III congregate and home-delivered nutrition services, as well as between nutrition services and supportive services--to assess their impact on program operations and participants
- The ***adequacy*** of the *Dietary Guidelines* and the RDAs

1. Targeting

The ENP authorizing legislation stated that services were to be targeted to those with the "greatest economic or social need." Over the years, several amendments to the OAA have tried to strengthen the

program's ability to provide nutrition and supportive services to this group of older people. These amendments have also attempted to help nutrition projects target services more effectively and implement appropriate outreach activities. Yet, studies examining the effectiveness of program targeting have reported conflicting results (O'Shaughnessy 1990; Ponza et al. 1994; Posner, 1979; and Kirschner et al. 1983).

Both Title III and Title VI provide nutrition services to elderly American Indians. Title III programs provide services to American Indian and Alaskan Native elderly people living in urban areas, as well as to state-recognized tribes and others who are not members of federally recognized tribes; Title VI provides nutrition services only to federally recognized tribes. Although Title VI was specifically established to provide services to American Indians, elderly Native Americans receive most nutrition services through Title III (Jackson and Godfrey 1990).

The current ENP evaluation has provided national estimates of the levels of program participation for low-income and minority elderly people and other elderly subgroups. In addition, the two main program components, congregate and home-delivered meals, are designed to serve somewhat different groups. In particular, recipients of home-delivered meals may be bedridden or homebound or generally too frail to leave their homes to obtain meals in a congregate setting. The evaluation data facilitate comparisons of home-delivered and congregate participants' characteristics along such dimensions as age, health, functional capabilities, and nutritional risk.

2. Program Impacts on Participants' Nutritional Intake and Socialization

To date, few studies of the ENP have provided reliable estimates of program impacts on participants' nutritional intake and socialization. The current evaluation assesses the impact of the program's nutritional components on participants. This assessment, which is based on comparisons of nutritional and other outcomes for participants and nonparticipants, after controlling for other factors, represents the most rigorous analysis to date of program impacts.

3. Linkages with the Long-Term Care System

As the older population grows--especially those over 85 years of age, who are most likely to be frail and at risk of losing their independence--the availability and accessibility of a well-managed system of home- and community-based services to assist these people with activities of daily living will play a greater role in delaying or preventing institutionalization for acute or long-term care (that is, hospitals, rehabilitation facilities, and nursing homes). Service planners have increasingly emphasized the importance of developing a continuum of services, including geriatric assessment, acute care, home care, assisted living, adult day care, respite services, hospice care, and community-based services such as transportation, nutrition, and so forth. Any gap in the continuum will tend to increase the individual's level of dependence and need for more costly services and, possibly, unnecessary or premature institutionalization.

The nutrition and supportive services offered under Title III and Title VI, which are a critical component of this continuum in any locality, are interconnected. For example, transportation is available through Title III and Title VI to ensure that clients can attend congregate sites or receive home-delivered meals; shopping assistance may be provided so that clients can have access to food at times when program meals are unavailable. However, it is likely that Title III and Title VI services are most effective when they are integrated with other community services, to ensure that service gaps are closed and to prevent service duplication. This evaluation has provided an opportunity to examine how well the ENP is integrated with other types of home- and community-based care (such as geriatric case management, local health agencies and providers, discharge planning units of hospitals, and other local formal outreach programs).

4. Efficient and Cost-Effective Administration and Service Delivery

The environment in which the ENP operates today is substantially different from the one that the program faced 15 years ago. The program must provide services to a targeted population that is growing dramatically at the same time that federal resources are decreasing. In this challenging environment, the efficiency of program administration and operations must continually improve. The current evaluation

includes a comprehensive set of analyses designed to provide information about ways to reduce program costs and improve productivity, as well as a detailed analysis of meal and other program costs. In addition, information on contracting and purchasing practices, use of USDA commodities, use of volunteers, and coordination with agencies within and outside the aging network has been obtained to inform strategies for program improvement.

5. Quality of Program Services

To ensure service quality, Congress has required the ENP to meet several criteria related to nutrition services. These include meeting nutritional requirements for meals, providing nutrition education to participants, and conforming with state and local laws for food sanitation and safety. By collecting and analyzing data on the nutritional content of meals offered, procedures and policies for food sanitation and safety, and other aspects of the program, the evaluation has obtained data with which to determine the extent to which nutrition projects and sites meet these criteria. Data on participants' perceptions of the quality and other aspects of program services are included.

6. Effects of Funds Transfers

A series of amendments to the authorizing legislation for Title III during the 1970s and 1980s defined and augmented the program's flexibility to transfer funds between home-delivered and congregate meals and between nutrition and supportive services. Since the vast majority of transfers historically involved moving resources out of the congregate program and into the home-delivered one, and to a lesser extent, into supportive services, the limitations adopted in the 1992 amendments are an effort to moderate the reduction of funds for congregate nutrition services that has been occurring. There is considerable debate about the need for further legislative action to impose additional constraints on how agencies in the aging network use AoA funds. On one hand, some argue for greater flexibility--that the transfers enable the program to better serve those most in need of nutrition services. Others argue that the practice erodes the

effectiveness of the congregate program--the very foundation on which nutrition and supportive services provided in the community are built. The evaluation has provided an opportunity to investigate the extent and nature of funds transfers and the resulting variation in services for different areas. It has also assessed why program administrators make transfers and the effect of resulting service adjustments on the types of clients served and the program's ability to meet their needs.

7. Appropriateness of the RDAs and the *Dietary Guidelines* in Program Administration

The most commonly used guidelines on the nutritional requirements of elderly people are the Recommended Dietary Allowances (RDAs) determined by the National Research Council (NRC), Food and Nutrition Board. The RDAs provide recommendations for the intake of vitamins, minerals, protein, and food energy. Other important recommendations include the DHHS and USDA *Dietary Guidelines for Americans* and recommendations of the NRC. ENP regulations require that program meals meet the RDAs and comply with the *Dietary Guidelines*. However, there is uncertainty about the appropriateness of the RDAs and the *Dietary Guidelines* for elderly ENP participants, especially the oldest old. These issues are described next.

a. Recommended Dietary Allowances

The RDAs are recommendations established and revised periodically by the NRC's Food and Nutrition Board for planning diets and evaluating the adequacy of the population's nutrient intake. The RDAs reflect experts' current opinions on safe and adequate nutrition allowances for the maintenance of good health among relatively healthy people. The RDAs exceed minimum nutrient requirements and are estimated to cover the needs of nearly all healthy persons in the population.[5] Thus, intakes below the recommended levels are not necessarily inadequate for all individuals but are said to increase the "risk"

[5]For protein, vitamins, and minerals, the levels are set at two standard deviations above the population mean. The one exception is the RDA requirement for energy, which is set at the population mean in order to guard against the potentially adverse consequences of food energy (calories) overconsumption.

of deficiency. In addition, the RDAs are defined in terms of the average, or usual, consumption of nutrients. Good health does not necessarily require that a person consume nutrients at the RDA levels each day; rather, the RDAs are general goals to be achieved over time. As a result, the RDAs reflect experts' opinions on the intake levels needed to prevent deficiencies and maintain existing health. Adjustments are not made for health problems that may alter nutrient requirements. Thus, persons with major health problems may require considerably higher nutrient intake levels.

The RDAs as applied to elderly persons have some other important limitations:

- ***The RDAs Are Not Based on Direct Study of Older People.*** The RDAs are largely extrapolations of data from studies of the needs of healthy young adults, supplemented by a limited amount of data from available studies of older persons. However, direct studies of the elderly are now accumulating. Some researchers have argued that the RDAs for some nutrients for the elderly (for example, riboflavin, Vitamin B_6, Vitamin D, and Vitamin B_{12}) should be increased.

- ***The RDAs Do Not Take into Account the Physiological Changes Associated with Aging, the Degenerative Changes Related to Chronic Disease, or Pharmacologic or Other Interventions that Can Influence Nutrient Absorption, Utilization, or Excretion***. The RDAs for elderly people encompass a single group of persons age 51 and older. Many researchers argue that this age group is far too broad to allow a single nutrient level to reflect the heterogeneous needs of all its members adequately.

- ***The RDAs Focus on Preventing Nutrient Deficiencies or Maintaining Existing Health, Rather than Preventing Chronic Disease.*** RDAs are set on the basis of nutrient levels that are necessary to correct or prevent nutrient deficiencies. This criterion may not be appropriate for elderly people, because the predominant health concern for this population group is prevention of chronic disease, not elimination of nutrient deficiencies.

Opinions differ about developing RDAs specifically for the older population and for specific subgroups within this population. Some have suggested developing two sets of recommendations: one for healthy elderly people, and the other for those with chronic disease. On the other hand, some researchers have cautioned against premature establishment of separate standards for the elderly, because they do not believe that the degree to which nutrient requirements change with advancing age has been demonstrated. The process is confounded by the difficulties inherent in distinguishing between changes in nutrient

requirements resulting from normal, healthy aging and those arising from social, psychological, and physical factors that could alter health status.

Clearly, the process of determining the appropriateness of the current RDAs for older people and of developing, as needed, separate recommendations for those of advancing age is complex. Consideration must be given to the heterogeneity of the older adult population. Research has not yet differentiated nutritional status and its determinants among widely differing older populations, including older persons institutionalized in acute or long-term care settings; ambulatory, independently living, relatively healthy elderly people; and the frail, homebound, older population. The impact of normal, progressive aging on nutrient requirements must be evaluated in both cross-sectional and longitudinal studies of well-characterized cohorts of middle-aged and older adults. Studies must also clarify the degree to which nutrient requirements change as relative health is maintained but chronic conditions progress. Furthermore, it may be desirable for research to guide the development of dietary recommendations that are consistent with the promotion of healthy aging and the optimal management of chronic disease.

Despite these limitations, researchers seem to agree that, until more appropriate age-specific RDAs are established, the 1989 RDAs should be used as recommended levels for judging the nutritional adequacy of the diets of older people and the nutrient content of meals provided by federal food and nutrition programs.

b. ***Dietary Guidelines***

Although the risk of nutrient deficiencies is of particular concern for certain high-risk groups of older persons, excessive food intake and diet-related chronic disease appear to be more prevalent diet-related problems among elderly persons. Today, chronic conditions, such as cardiovascular heart disease, strokes, and cancer, are the most predominant health problems for elderly people, many of whom consume excessive amounts of food energy (calories), fat (especially saturated fat), cholesterol, and sodium, and insufficient complex carbohydrates and dietary fiber. Genetic components are important determinants of

many chronic diseases, but there is consensus that dietary factors play a significant role in the cause, prevention, and treatment of these diseases (National Research Council 1989b).

The *Dietary Guidelines* are intended to be the basis of menu planning in federal food and nutrition programs and homes. They provide advice about food choices that will meet nutrient requirements, promote health, and reduce chronic disease risks (see Section I.A.3 for the *Dietary Guidelines* recommendations). Diets with the majority of calories from grains, vegetables and fruits, low-fat dairy products, lean meats, fish, and poultry, and the minority of calories from fats and sweets, meet the recommendations of the *Dietary Guidelines*.

The *Dietary Guidelines* provide specific quantitative recommendations about food variety and the amount of fat in diets. However, they do not provide quantitative recommendations for cholesterol, sugar, or sodium, or other dietary components.[6]

The *Dietary Guidelines* recommend that intake from total fat should not exceed 30 percent of total food energy (calories), and intake from saturated fat should not exceed 10 percent of total food energy (calories). However, some nutrition experts believe the recommended maximum levels of total fat and saturated fat as a percentage of calories for elderly people may be overly stringent, especially for the oldest old. The argument is that the full implications of lowering total and saturated fat intake on longer-term health outcomes in elderly people are unknown. Furthermore, reducing total and saturated fat intake may lower the intake of much needed calories and other essential nutrients for this population, and this intake needs to be carefully managed to preserve the nutrient density of this population's diet.

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[6]For some of the recommendations, the NRC provides specific quantitative benchmarks. These include carbohydrate, at least 55 percent of total calories; cholesterol, no more than 300 mg per day; sodium, no more than 2,400 mg per day; dietary fiber, at least five portions per day (where one portion is equivalent to half a cup); alcohol, no more than one ounce per day.

C. OBJECTIVES OF THE EVALUATION

Although established in 1972, there has been only one national evaluation of the OAA Title III nutrition program. That evaluation was completed more than 10 years ago (Kirschner et al. 1983 and 1981). Similarly, the last, and only, major evaluation of the Title VI nutrition program was in 1983 by Native American Indian Consultants, Inc. (Lustig 1983). The Title VI program was in its third year of operation then; at that time, 83 ITO grantees were participating. When Congress authorized the OAA in 1991, it recognized that comprehensive data on the Title III and Title VI nutrition programs were not available. As part of the 1992 amendments, Congress included two mandates to ensure that current and comprehensive data would be available to policymakers. One of the mandates called for a national evaluation of the nutrition services program.[7]

In order to address the policy issues summarized here, Congress, in authorizing the current evaluation, identified 19 specific objectives for the research. These 19 objectives fall into four general categories:

1. To evaluate who is using the program and how effectively the program reaches targeted groups
2. To evaluate the program's effects on participants, relative to eligible nonparticipants
3. To assess how efficiently and effectively the program is administered and delivers services
4. To clarify program funding streams and allocation of funds among program components

The following sections discuss the specific research objectives, classified according to these categories.[8]

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[7]The other mandate called for AoA to develop uniform data collection procedures on persons served and the services being received.

[8]For ease of exposition, the 19 objectives set forth in the legislation have been consolidated slightly to 17 objectives in this discussion. A mapping from the 19 objectives to the 17 is presented in Volume III, Chapter I.

1. Program Participation and Targeting

AoA requires up-to-date information on the characteristics of current participants to have an accurate picture of program participants and to target services more effectively. Four of the questions in the legislation relate to characteristics of program participants and targeting:

1. ***Describe the Characteristics of Participants***. The logical starting point for an overall assessment of the program is to determine who the program is serving. An understanding of participant characteristics can help program administrators and Congress assess the degree to which those served by the program are in need of services provided. Information on both demographic and economic characteristics is necessary, as are indicators of nutritional, physical, social, and psychological status and well-being.

2. ***Describe Differences Between Participants in Congregate and Home-Delivered Meal Programs***. The two main components of the program--congregate and home-delivered meals--are designed to serve somewhat different groups. The expectation is that recipients of home-delivered meals are generally less able to leave their homes to obtain meals in a congregate setting. To evaluate whether the program is working as intended, the evaluation compared the characteristics of participants in the two program components.

3. ***Describe Changes Over Time in Participants and Program Services***. It is important to analyze the *current* characteristics of program participants, as well as *changes* in these characteristics over time. Tracking changes can provide important clues about the direction in which the program is moving, thus making it possible to predict future participation patterns under various policy scenarios, and to refine targeting objectives.

4. ***Describe Program Effectiveness in Reaching Special Populations of Older Individuals***. Although all older Americans are eligible for program services, the authorizing legislation emphasizes a number of special populations for whom services are believed to be particularly important. Accordingly, the evaluation has examined the program's effectiveness in reaching American Indians, Native Hawaiians, Alaskan Natives, Asians/Pacific Islanders, African Americans, Hispanics, frail/disabled individuals, residents of rural areas, low-income nonminority people, and low-income minority people. This assessment has compared data on the number of participants and program eligibles by race/ethnicity, income, functional status, and residential location.

2. Program Impacts

A second set of research questions relates to direct program impacts--the ways in which the program affects participants:

- ***Identify Impacts on Dietary Intake and Opportunities for Socialization.*** Given the structure of the program, the outcomes of particular and direct importance are dietary intake (in relation to recommendations and guidelines for nutrient intake) and opportunities for socialization. Effects of the program on these outcomes have been addressed, both for all participants as a group and for various subgroups, defined by race/ethnicity, income levels, and other factors.

- ***Identify Impacts of Recent Increases in the Proportion of Home-Delivered Meals Provided Under the Program.*** An important program trend in recent years has been a shift in resources toward home-delivered meals. The evaluation has assessed the impacts of this shift on participants and program operations, and whether it should be altered. Related shifts in the provision of supportive services have also been considered.

3. Program Administration and Service Delivery

As concern about large federal budget deficits continues to increase, all public programs are under scrutiny to assess whether their operations are as efficient as possible. Accordingly, a number of questions specified in the authorizing legislation pertain to this area:

- ***Describe the Efficiency of Program Administration and Service Delivery.*** The evaluation has described program operations and service delivery at all levels of program administration, including the state, AAA (or ITO), nutrition project, and meal site levels, in order to examine the efficiency of program operations. This process has involved assessing the inputs--including staff time, food, space, and other factors--that are used in producing program services. It has also involved obtaining information on different procedures used by agencies in delivering program services.

- ***Describe the Costs of Program Administration and Service Delivery.*** Measures of program costs provide a particularly important dimension for assessing the efficiency of program delivery, because they offer a way of combining information on individual inputs into an overall index of resource use. As a result, part of the evaluation computes the average costs of providing program meals.

- ***Describe Changes in Program Administration and Service Delivery Over Time.*** It has been important for the evaluation to examine changes in program administration and service delivery characteristics over time. Highlighting changes in recent years may make it possible to identify probable future trends, which can then be examined to determine whether they appear to be in the public interest.

- ***Describe Commodity Usage and Limitations on Commodity Usage.*** Most nutrition projects are not making direct use of USDA commodities available to them. Instead, they are taking advantage of an option that allows them to receive cash equal to the value of their basic commodity allotment, even though *extra* commodities are available to projects that take at least 20 percent of their commodities allotment in the form of actual commodities. As part

of an overall assessment of the efficiency of program operations, the evaluation has examined both the degree to which commodities are used in the program and reasons why they are not used more.

- ***Assess the Quality of Services Provided.*** A full assessment of program efficiency must consider not only the *quantity and cost* of services (for example, meals) produced but also their *quality*. Various quality measures have been included in the evaluation: the degree to which program meals meet programmatic requirements for nutrient intake, including Recommended Dietary Allowances (RDAs) and the USDA/DHHS *Dietary Guidelines for Americans*, the degree to which accepted sanitation and food handling standards are met at program sites, and participants' subjective evaluations of the services they receive.

- ***Describe the Levels of Nutritional Expertise of Staff Involved in Program Administration.*** The efficiency and quality of program operations are also reflected in the qualifications of staff involved in the program. The evaluation has examined the nutritional expertise of program staff, including consultants, at all levels of program administration. Both educational background and registration status were considered.

- ***Determine the Applicability of Health and Safety Standards.*** The success of the program in accomplishing its nutritional objectives requires that meals served meet high standards for compliance with health and sanitation standards. The evaluation has obtained information on the methods used in meal production and delivery, to determine whether appropriate health and safety precautions are being taken. Information on the applicability of state and local food service inspection requirements has also been obtained.

- ***Describe the Integration of Program Services with the Long-Term Care System.*** Because of the aging of the U.S. population and heightened concern about health care costs, increasing emphasis has been placed on developing long-term and case-managed systems that make it possible for elderly people to remain in their communities and avoid institutionalization for as long as possible. The ENP has the potential for contributing significantly to this objective by providing a means for elderly people to obtain nutritious meals and related services, and by identifying older persons who are in need of nutrition and support services. The trend toward home-delivered meals noted earlier may in part reflect pressures to provide program services to persons who need them as part of explicit long-term care plans. Given these factors, the evaluation has examined linkages between the ENP and the home and community based long-term system. These linkages might involve (1) funding mechanisms, such as Title XIX waivers; (2) referral systems, such as hospitals that refer patients who need meal services as part of their discharge plans; or (3) other types of linkages.[9]

- ***Assess the Appropriateness of RDAs and Dietary Guidelines in Program Administration.*** Nutritional goals for the program are stated, in part, in terms of the RDAs for key nutrients, as established by the National Research Council of the National Academy of Sciences. However, these allowances are the same for all persons 51 years old and older, regardless of

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[9]Under Title XIX waivers, states may provide home- and community-based services to elderly individuals, such as meals or social support, under their state Medicaid programs to prevent the need for nursing home care.

age differences and health factors. As a result, some observers have questioned whether the current RDAs are appropriate for ENP program administration. The evaluation has addressed this issue.

4. Program Funding

Nutrition projects operating under the ENP often draw on a broad array of funding sources in order to maximize the services they can provide. Understanding where funding comes from, how it meshes together to provide integrated program services, and what constraints funding sources introduce into the overall system is crucial for developing a comprehensive understanding of program operations. Two questions address this concern:

1. ***Describe Sources and Uses of Funds.*** At each level of program administration, the evaluation has examined funding sources and the degree to which monies from specific sources are linked to specific uses. In addition to OAA funds, the following funding sources have been examined: other federal sources (such as USDA); state and local governments; participant contributions; donations of labor; and donations of other resources.

2. ***Describe Transfers of Funds Between Components of the Program.*** As noted, the provision of home-delivered meals under the program has increased substantially. One of the administrative mechanisms through which this increase has been accomplished is the transfer of funds away from congregate meals. Funds have also been transferred from congregate meals to provide more supportive services under Title III-B. The evaluation has documented the degree of funding shifts and examined reasons for the shifts

Note that not all of the programmatic issues and, hence, study objectives, discussed previously are of relevance to Title VI of the ENP. In particular, transfers of funds among program components and some aspects of program targeting are not applicable to the Title VI program. In addition, it was not feasible to identify a comparison group, so no separate "impact" analysis of program components on participants' dietary intakes and socialization was conducted for the Title VI program.[10]

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[10]It was not feasible to create a comparison group for the Title VI program because of several interrelated reasons, including (1) members of such a comparison group would be atypical, (2) small sample sizes would not permit reliable estimates of program impacts, and (3) resource constraints limited our ability to do so.

D. STUDY METHODS

Many of the evaluations's analytic objectives were descriptive in nature and required compiling detailed information about the organizations and persons involved with the program. To address these descriptive issues, interviews and/or observations were conducted with program participants and with personnel from organizations at all levels of the program hierarchy, including:

- AoA central office
- SUAs
- AAAs
- ITOs
- Nutrition projects
- Congregate sites
- Meal production facilities

Data on the contents of meals served in the program were also obtained, and program administrative data were reviewed.

Interviews were also conducted with program participants. In addition, in order to examine program impacts, it was necessary to obtain data on a set of persons who were similar to program participants but were not participating in the program. A comparison group of eligible nonparticipants was identified for this purpose by screening a sample of persons receiving Medicare that was supplied by the Health Care Financing Administration (HCFA) of DHHS.

Much of the analysis was done using descriptive tabular methods. However, regression techniques were used in the impact analysis, in order to attempt to control for differences between the participant and nonparticipant samples.

Details concerning study methods are presented in Volume III of this final report. Among the topics covered there are sampling, telephone and in-person data collection, response rates, and weighting the data.

E. STUDY LIMITATIONS

This study represents the most comprehensive evaluation of the ENP conducted in the past 15 years. It provides important information about program operations and funding, participants in the program, and the impacts of the program on participants. However, interpretations of the results summarized here must be made in light of the study's limitations. Four of the most important of these limitations are highlighted next.

1. ***Lack of Random Assignment.*** The strongest evaluation design for measuring the effects of the ENP on participants would have randomly assigned potential participants to the program or to a control group that did not receive program services. Random assignment was not possible in the current evaluation. Instead, MPR selected a sample of nonparticipants in the same locations as participants, from HCFA's Medicare Beneficiary File, in which the nonparticipants were matched with participants in terms of key variables. Without random assignment, underlying differences between the participant and nonparticipant groups might confound the comparisons made in the impact analyses. MPR minimized this possibility, however, by matching the comparison group to the participant group as closely as possible, and by using statistical techniques to control for the effects of observable differences.

2. ***Sampling Error.*** With the exception of the data collection from SUAs, all of the surveys in this study were based on samples of agencies or respondents. As a result, the numerical estimates reported here are subject to possible error resulting from random statistical variation. In general, however, our sample sizes are large enough that sampling error, while present, is probably not large enough to affect the overall conclusions.

3. ***Potential Measurement Error in Nutrition Project Meal Cost Estimates.*** Many nutrition projects in the ENP do not keep sufficiently detailed cost records to provide consistent cost information across projects. Accordingly, MPR "built up" cost estimates on the basis of detailed information from the projects about local operations, staff wage rates, and other factors. This process may have introduced some measurement error into the detailed cost estimates, but MPR is confident that the overall order of magnitude of the cost estimates is correct.

4. ***Difficulties in Allocating Funding by Source.*** The agency surveys asked respondents to provide data on total funding and funding by source, separately for congregate meals, home-delivered meals, and supportive services. Because meals and supportive services are closely intertwined in many projects, it was often not possible to link services with specific funding

sources. As a result, much of the analysis of program funding sources relied on aggregate program data.

These limitations should be kept in mind in assessments of the study's overall findings, as they may affect some details of the findings. Despite these limitations, however, the basic conclusions drawn here are strongly supported by the information collected in the study.

F. ORGANIZATION OF THE REPORT

Volume I of the final report on the evaluation presents the results pertaining to Title III of the program. Volume II presents parallel findings for Title VI. Details of the methodologies used are included in Volume III.

In the remainder of Volume II of this report, we examine the Title VI program as it operates currently. Chapter II describes the characteristics of Title VI meal program participants, highlighting similarities and differences between Title VI congregate and home-delivered participants, and comparing Title VI participants with the overall U.S. elderly population. Chapter III describes Title VI participants' intake from program meals and assesses the contribution of the nutrition program to participants' dietary intake and opportunities for socialization. Chapter IV examines administrative, service delivery, and funding characteristics and issues for the Title VI program.

II. CHARACTERISTICS OF TITLE VI NUTRITION PROGRAM PARTICIPANTS

Title VI of the Elderly Nutrition Program (ENP) provides nutrition and supportive services to American Indians, Alaskan Natives, and Native Hawaiians. This chapter describes the characteristics of Title VI meal program participants who receive a program meal on a typical day according to key demographic, health, nutrition, and lifestyle dimensions. It also looks at participants' service receipt and participation characteristics. In addition, it describes differences and similarities between Title VI congregate and home-delivered meal program participants, and compares characteristics of Title VI participants with those of the overall U.S. elderly population.

The evaluation found that, proportionally, more females than males participate in the Title VI congregate program. On average, congregate participants are 68 years old, not currently married, living with others, and poor. They are active in terms of getting out of the house and visiting relatives, friends, and neighbors but, on average, have three chronic health conditions with major nutrition implications. They are also at increased risk for obesity and rate their health as "fair or poor." The vast majority of Title VI congregate participants had been enrolled in the program for more than one year before being interviewed. The majority attend a meal site on a very frequent basis. Title VI congregate participants' dietary intakes meet or exceed the Recommended Daily Allowances (RDAs) for most nutrients, but they tend to eat too few fruits, vegetables, and milk products. Overall, their diet is high in total fat, saturated fat, and sodium, and their intake of carbohydrate is low.

Proportionally, more females than males also participate in the Title VI home-delivered meal program. On average, they are 71 years old, not currently married, living with others, and poor. Although their health is similar to that of congregate participants, they are not as mobile or as physically or socially active. As a group, home-delivered meal participants are somewhat newer to the Title VI program than congregate participants. The vast majority receive five or more program meals per week. Similar to congregate

participants, they tend to consume too much fat and sodium and not enough carbohydrate, although their intakes meet the RDAs for many nutrients.

Title VI home-delivered nutrition services reach elderly persons for whom the program is targeted. In general, Title VI home-delivered meal program participants are older, in poorer health, more functionally impaired, have lower incomes, get out of their homes less often, and have more need for a variety of in-home supportive services than do Title VI congregate participants.

The remainder of the chapter describes Title VI participants in greater detail.

A. DEMOGRAPHIC CHARACTERISTICS

Title VI congregate meal program participants are, on average, 68 years old; home-delivered program participants are, on average, 71 years old (Table II.1). Twenty-one percent of Title VI congregate participants and 11 percent of Title VI home-delivered participants are younger than age 60. In both cases, however, the vast majority of participants who are younger than age 60 are between the ages of 50 and 60. Twelve percent of Title VI home-delivered participants are age 85 or older, compared with two percent of Title VI congregate participants.

Title VI participants are somewhat younger, on average, than elders in the overall elderly (age 60+) population in the United States. The average ages of both Title VI congregate and home-delivered participants are much lower than the corresponding average ages for participants in the Title III program (76 and 78 years, respectively--see Volume I, Chapter II, Table II.1). Title VI participants' lower average age reflects the fact that the minimum age for eligibility under the Title VI program is established by the individual tribes and can be less than age 60. This lower age minimum was established in the Title VI program because American Indian and Native Hawaiian elderly groups have a shorter life expectancy, on average, than adults in the overall U.S. population.

Most Title VI participants, especially Title VI home-delivered participants, are female (Table II.1). Sixty-one percent of Title VI congregate participants and 68 percent of Title VI home-delivered

TABLE II.1

SELECTED DEMOGRAPHIC CHARACTERISTICS OF
MEAL PROGRAM PARTICIPANTS
(Percentages, Unless Stated Otherwise)

Characteristic	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants	Overall U.S. Elderly (60+) Population[a]
Age			
Less than 40	*	*	--
40 to 49	*	3	--
50 to 59	20	8	--
60 to 74	55	54	67
75 to 84	22	22	25
85 and older	2	12	8
Average Age (Years)	68	71	72
Female	61	68	58
Live Alone	29	28	25
Income Less than 100 Percent of DHHS Poverty Guidelines (Low Income)	51	57	15
Income Less than 200 Percent of DHHS Poverty Guidelines	86	86	38
Unweighted Sample Size	**212**	**213**	

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Authors' tabulations of 1990 Census of Population and Housing data (U.S. Bureau of the Census 1994).

* = Less than 0.5 percent.

DHHS = U.S. Department of Health and Human Services.

participants are female, compared with 58 percent in the overall U.S. elderly population. Similar to elders in the overall elderly population in the United States, the majority (70 percent) of Title VI participants report living with others (such as a spouse or relative). Fewer than one-third of Title VI congregate and home-delivered participants live alone.

Despite no means test for participation in the Title VI meal program, most Title VI participants are "poor" or "near poor." One-half of Title VI congregate participants and nearly 60 percent of home-delivered participants have family incomes below 100 percent of the U.S. Department of Health and Human Services (DHHS) poverty threshold (Table II.1).[1] The proportion of Title VI participants who subsist below the DHHS poverty level is more than three times that for the elderly U.S. population in general. Overall, 86 percent of Title VI congregate and 86 percent of Title VI home-delivered participants have family incomes below 200 percent of the DHHS poverty threshold. These proportions of participants with incomes below 200 percent of the poverty threshold are twice that for the older U.S. population in general.

There are only minor demographic differences between Title VI congregate and home-delivered participants. Home-delivered participants are, on average, two years older and somewhat more likely to be female and to have income below 100 percent of the DHHS poverty threshold.

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[1]The program uses DHHS poverty guidelines to define participants with "low income." The DHHS poverty guidelines are a simplified version of the statistical poverty thresholds that the U.S. Bureau of the Census uses to prepare estimates of the number of persons and families in poverty. The differences between the Census and DHHS poverty thresholds are (1) although both sets of thresholds have variations for family size, the Census version adjusts each family size category by the number of children, while the DHHS version does not; (2) the Census version includes separate thresholds for aged (65 years or older) and nonaged one-person and two-person families, whereas the DHHS version has no such breakdown; and (3) unlike the Census version, the DHHS version thresholds vary from each other by a specified constant incremental amount. The DHHS annual dollar thresholds for defining low income in 1994 in the contiguous states equaled $7,360 for a one-person family, $9,840 for a two-person family, and $12,320 for a three-person family. The thresholds for larger families can be derived by adding $2,480 for each additional member.

B. HEALTH, FUNCTIONAL STATUS, AND MOBILITY

This section describes and compares the self-reported health, functional, and mobility characteristics of Title VI congregate and home-delivered meal program participants.

1. Health Status

Title VI congregate and home-delivered participants have about the same average number of reported diagnosed chronic health conditions (2.8 versus 2.9 conditions, respectively--see Table II.2). A somewhat greater percentage of congregate than home-delivered meal program participants, however, reported three or more chronic conditions (55 percent versus 46 percent). For about one-fifth to more than half of Title VI participants, the most common health problems include arthritis, hypertension, lung or breathing problems, heart disease, diabetes, and high blood cholesterol levels. Between 10 and 20 percent of Title VI congregate and home-delivered participants also reported a history of stroke, cancer, or kidney disease. Except for elevated blood cholesterol levels, diabetes, and hypertension, Title VI home-delivered participants have a higher prevalence of each chronic condition than congregate participants. Reflecting the presence of multiple chronic health conditions, nearly half of congregate and home-delivered participants take three or more medications concurrently.

Compared with 30 percent of congregate participants (Table II.2), 37 percent of Title VI home-delivered participants reported one or more separate overnight hospital stays during the past year. Home-delivered participants were somewhat more likely than congregate participants to have multiple hospital stays during the past year. For example, 11 percent of home-delivered participants had three or more separate hospital stays during the past year, compared with 8 percent of congregate participants (not shown). Very few congregate participants (fewer than one percent) reported a nursing or convalescent stay during the past year, compared with two percent of home-delivered meal participants.

TABLE II.2

SELECTED HEALTH CHARACTERISTICS OF MEAL PROGRAM PARTICIPANTS[a]
(Percentages, Unless Stated Otherwise)

Characteristic	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Medical Doctor Has Diagnosed:		
Arthritis	55	59
Hypertension	52	42
Breathing/lung problems	32	36
Heart disease	29	35
Diabetes	42	32
Stroke	13	21
High blood cholesterol	27	20
Kidney disease	13	14
Cancer	10	14
Anemia	6	13
Osteoporosis	7	8
Three or More Diagnosed Chronic Health Conditions	55	46
Average Number of Diagnosed Chronic Health Conditions	2.8	2.9
Hospital Stay During Past Year	30	37
Nursing or Convalescent Home Stay During Past Year	*	2
Hospital or Nursing Home Stay During Past Year	30	37
Take Three or More Prescription or Over-the-Counter Drugs Daily	46	46
Smoke Cigarettes Regularly	17	22
Consume Three or More Alcoholic Drinks Almost Every Day	3	*
Body Mass Index Below 22 (Indicative of Risk for Nutrient Deficiency)[b]	9	15
Body Mass Index Above 27 (Indicative of Obesity)[b]	56	54

TABLE II.2 *(continued)*

Characteristic	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Involuntarily Lost or Gained 10 Pounds in Past Six Months	32	18
Fair or Poor Current Health	45	45
Have Usual Place to Go for Medical Care	94	99
Health Insurance Coverage		
Medicare and private insurance	10	13
Medicare only	34	37
Medicare and Medicaid	9	17
Medicaid only	4	11
Other combinations	11	5
No coverage	32	18
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Tabulations are based mainly on self-reported data.

[b]Body Mass Index (BMI) is based on measured height and weight. However, if a respondent could not be or refused to be weighed or to have his or her height measured, we used self-reported height and weight.

* = Less than 0.5 percent.

Approximately one-third of Title VI congregate and home-delivered participants have an estimated Body Mass Index (BMI) in the "ideal" range (between 22 and 27).[2] For both Title VI congregate and home-delivered participants, risk of obesity is a major problem--more than half have a BMI in excess of 27, which indicates increased risk of obesity. In addition, nearly one-third of Title VI congregate participants and slightly less than 20 percent of home-delivered participants reported involuntarily gaining or losing 10 pounds recently--a clinical indicator of increased risk for nutrition-related health problems. Significant percentages of Title VI participants (45 percent of congregate and 45 percent of home-delivered) reported their health as "poor" or "fair." In contrast, approximately 29 percent of older people in the overall elderly (age 65+) population in the United States reported their health as poor or fair (U.S. Senate, Special Committee on Aging 1991).

Nearly all Title VI participants reported having a health care provider (clinic, doctor, health center, or other) where they can go when they are either ill, need health advice, or routine care. The majority of participants have public or private health care insurance coverage, but fully one-third of congregate participants and nearly 20 percent of home-delivered ones reported no health insurance coverage.

Overall, the health characteristics of Title VI congregate and home-delivered meal participants are fairly similar. Along some dimensions, however, Title VI home-delivered meal program participants are in worse health and have a greater prevalence of characteristics related to poor health, compared with congregate participants. Yet, Title VI congregate participants fare worse than home-delivered ones on some indicators; on others, there is little difference.

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[2]BMI is a weight-to-height ratio composed of body weight (in kilograms) divided by the square of height in meters. It is highly correlated with body fat, although a lean body mass or a large body frame is also associated with higher BMI (Dwyer 1991). Although standards cannot be agreed upon, a BMI less than 22 is felt to be indicative of greater risk of poor nutritional status, whereas a BMI in excess of 27 is thought to be indicative of major risk for obesity (Nutrition Screening Initiative 1991). It is important to note, however, that while high BMI is a predictor of chronic disease and disability, the efficacy of weight reduction programs in older people is not well established. Therefore, these results need to be interpreted cautiously (Potter et al. 1988).

2. Functional Status

A significant proportion of Title VI home-delivered meal program participants are severely functionally impaired and need daily help performing one or more activities critical for them to remain in their homes and to avoid unnecessary institutionalization. Thirty-six percent of home-delivered participants are *unable to perform* one or more activities of daily living (ADLs) or instrumental activities of daily living (IADLs) without the assistance of another person or the use of physical aides (not shown).[3] Forty-four percent are either *unable to perform* or *have much difficulty performing* one or more ADLs or IADLs without assistance.

In the remainder of this section, participants are considered impaired in a particular ADL or IADL if they reported being unable to perform it without assistance or having much difficulty performing the activity.

For any particular ADL, the vast majority of Title VI home-delivered participants are not functionally impaired (no more than one-quarter are impaired on any one ADL indicator.) For most ADLs, the proportion of home-delivered participants that are impaired is in the 10 to 15 percent range (Table II.3). One-quarter of Title VI home-delivered meal program participants, however, are unable to walk or have much difficulty walking without assistance. About 20 percent are either unable to take a bath or shower or have much difficulty doing so without assistance. Thirty-one percent of Title VI home-delivered meal participants are impaired in one or more ADLs; the average home-delivered participant has one ADL impairment.

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[3]ADLs refer to basic self-care skills. The evaluation asked participants about the degree to which they were able to perform eight ADLs without assistance: personal grooming, eating, getting in and out of bed, walking, taking a bath or shower, using the toilet, dressing, and getting to the bathroom on time (continence). IADLs describe the more complex activities one needs for independent living. The evaluation included six IADLs: using the telephone, taking medication, managing money, preparing meals, doing household chores, and shopping for groceries.

TABLE II.3

PREVALENCE OF FUNCTIONAL LIMITATIONS IN THE MEAL PROGRAM PARTICIPANT POPULATION
(Percentages, Unless Stated Otherwise)

Functional Activities	Much Difficulty Performing or Unable to Perform Activity Without Assistance		
	Title VI Congregate Meal Participants[a]	Title VI Home-Delivered Meal Participants[a]	Elderly (65+) Medicare Beneficiaries[b]
Activities of Daily Living			
Personal Grooming	4	10	N.A.
Eating	1	5	1
Getting In and Out of Bed	2	13	4
Walking	7	24	11
Taking a Bath or Shower	4	21	6
Using the Toilet	2	9	2
Dressing	2	10	2
Maintaining Continence	4	15	4
Average Number of ADLs Have Difficulty Performing or Unable to Perform Without Assistance	0.3	1.1	–
Percentage with Difficulty Performing or Unable to Perform One or More ADLs Without Assistance	10	31	–
Instrumental Activities of Daily Living			
Using the Telephone	5	15	3
Taking Medication	2	12	N.A.
Managing Money	7	16	5
Preparing Meals	8	26	7
Doing Housework	15	35	8
Grocery Shopping	8	33	11
Average Number of IADLs Have Difficulty Performing or Unable to Perform Without Assistance	0.4	1.4	–
Percentage with Difficulty Performing or Unable to Perform One or More IADLs Without Assistance	21	42	–
Unweighted Sample Size	**212**	**213**	**3,485**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of program participants receiving Title VI meals on a given day.

[a] In the current evaluation, the questions were: "Now I am going to read a list of activities. Please tell me how much difficulty you have doing these things without the use of physical aids or another person. What about . . . ? Do you have no difficulty, some difficulty, much difficulty, or are you unable to . . . at all by yourself?"

[b] In the national Survey of Self-Care and Aging, the questions were: "Because of a health or physical problem, do you have difficulty . . . ?" If response was "yes," the respondent was asked: "Do you have some difficulty, a lot of difficulty, or are you unable to . . . ?"

N.A. = Not asked.

Title VI participants are somewhat more impaired in IADLs than in ADLs. The majority of home-delivered meal program participants are also not impaired on individual IADL items. One-third of home-delivered meal participants are either unable to shop or have much difficulty shopping for groceries without assistance; 35 percent are unable to do or have much difficulty doing household chores without help. One-quarter are unable to prepare or have much difficulty preparing meals without assistance. Forty-two percent of home-delivered participants are impaired in one or more IADLs; the typical home-delivered participant has slightly more than one IADL impairment. Overall, Title VI home-delivered meal participants average 2.4 ADL and IADL impairments, and 44 percent are unable to perform or have much difficulty performing one or more ADLs or IADLs without assistance.

Title VI home-delivered meal program participants are more functionally impaired than congregate participants. In each ADL category, Title VI home-delivered participants are approximately three to seven times more likely than congregate participants to be impaired. Thirty-one percent of home-delivered participants are impaired in one or more ADLs, compared with just 10 percent of congregate participants (Table II.3). Title VI home-delivered participants are two to six times more likely than congregate participants to be impaired in IADLs (42 percent are impaired in one or more IADLs, compared with 21 percent of congregate participants). Overall, Title VI home-delivered meal participants are unable to perform or have much difficulty performing nearly three ADLs or IADLs, compared with an average of less than one for congregate participants.

Generally, Title VI congregate participants have little difficulty performing IADLs. Nonetheless, notable minorities (7 to 15 percent) reported major difficulties in doing housework, preparing meals, grocery shopping, managing money, and walking. In addition, nine percent have major problems performing two or more IADLs without assistance.

3. Mobility and Leisure Time Physical Activity

Title VI congregate participants as a group are mobile and physically active. They are also more mobile and physically active than Title VI home-delivered participants. Ninety-one percent of congregate participants reported getting out of the house at least once a week; 66 percent get out five or more times a week (Table II.4). In contrast, 69 percent of home-delivered participants get out at least once a week, and 36 percent get away from home five or more times weekly.

Two-thirds of Title VI congregate participants reported participating in leisure time physical activities during the past month. Title VI congregate participants reported an average of 21 leisure time physical activities during the past month (the median number is 13). In contrast, half of the home-delivered participants engaged in leisure time physical activities during the past month. Title VI home-delivered meal participants reported an average of 13 physical activities during the past month (the median number is 0).

C. FOOD AND DIETARY BEHAVIORS, NUTRITIONAL RISK, FOOD INSECURITY, AND DAILY NUTRIENT INTAKE

1. Food and Dietary Behaviors[4]

Two-thirds or more of Title VI congregate and home-delivered participants consume about three meals a day, including breakfast (Table II.5). Fewer than half of the congregate participants and fewer than a third of the home-delivered ones usually eat alone at home. Virtually all (94 percent) of Title VI congregate participants and most (81 percent) of home-delivered participants can prepare hot meals if they absolutely have to; about 20 percent of home-delivered meal participants are unable to do so. Most Title VI participants have excellent or good appetites, but 20 percent of congregate and 25 percent of home-delivered participants reported that their appetite is poor or fair. Twenty-eight percent of both congregate

[4]This section describes participants' eating behaviors reported on the characteristics survey. Subsection C.4 describes Title VI participants' intakes of food energy and nutrients on the basis of a 24-hour dietary recall administered during the in-person interview.

TABLE II.4

MOBILITY AND LEISURE TIME PHYSICAL ACTIVITY OF MEAL PROGRAM PARTICIPANTS
(Percentages, Unless Stated Otherwise)

	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Unable to Walk or Have Much Difficulty Walking Without Assistance	7	24
Get Out of the House at Least Once Per Week	91	69
Get Out of the House Five or More Days Per Week	66	36
At Least One Leisure Time Physical Activity During the Past Month	67	50
Number of Leisure Time Physical Activities During the Past Month		
Mean	21	13
Median	13	0
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

TABLE II.5

SELECTED DIETARY CHARACTERISTICS AND BEHAVIORS OF MEAL PROGRAM PARTICIPANTS
(Percentages)

Characteristic	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Eat Fewer than Three Meals Per Day	38	28
Rarely or Never Eat Breakfast	16	12
Cannot Prepare Hot Meals if Need to	6	19
Usually Eat Alone	41	29
Current Appetite Is Fair or Poor	20	25
Have Illness or Condition that Has Changed Eating Habits	55	41
Eat Few Fruits Daily	36	38
Eat Few Vegetables Daily	21	36
Consume Few Milk Products Daily	47	56
Regularly Take Vitamin or Mineral Supplements	34	42
Currently on Special/Therapeutic Diet	28	28
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

and home-delivered participants are on special/therapeutic diets. More than half of congregate participants and about 40 percent of home-delivered ones currently have an illness or condition that has made them change the kind or amount of food eaten. About one-third of congregate and more than 40 percent of home-delivered participants take daily vitamin supplements.

2. Characteristics and Behaviors Suggestive of Increased Nutritional Risk

Forty-four percent of Title VI congregate participants and 38 percent of home-delivered meal program participants reported a combination of characteristics or behaviors indicating that they may be at high risk for nutritional-related health problems, as measured by an approximation of the NSI Checklist (Table II.6).[5] These characteristics increase the likelihood of risk for nutritional problems, as indicated by a score of 6 or more. About 40 percent each of congregate and home-delivered participants scored in the 3 to 5 range, which is suggestive of moderate nutritional risk. Overall, approximately 80 percent of Title VI congregate and home-delivered meal program participants have characteristics associated with moderate to high nutritional risk.

3. Food Insecurity

Food insecurity is a condition in which the household in which the individual resides does not always have adequate food, the individual cannot always afford to buy enough food and/or cannot always get to markets or food programs to obtain food, or the individual cannot prepare and gain access to the food available in the household (Burt 1993). Food insecurity was operationalized in the current evaluation

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[5]The NSI Checklist is a self-assessment protocol that, through a series of statements, helps identify eating habits and lifestyle that may place elderly persons at nutritional risk. The checklist contains 10 items. The evaluation included 9 of the 10 items but omitted the item, "Have tooth or mouth problems that make it hard for me to eat" (which was worth 2 points if answered affirmatively). Consequently, the assessment of nutritional risk described here should be considered an approximation of that under the NSI Checklist. However, our approximation should, if anything, understate the prevalence of nutritional risk, because we omitted an item worth 2 points in the overall assessment scale, but we have retained the thresholds used by the NSI Checklist to determine whether elderly individuals are at "no risk" (0 to 2), "moderate risk" (3 to 5), or "high risk" (6 or more).

TABLE II.6

NUTRITIONAL RISK OF MEAL PROGRAM PARTICIPANTS, BASED ON NUTRITION SCREENING INITIATIVE CHECKLIST
(Percentages, Unless Stated Otherwise)

	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Components of Index (Score)		
Have Illness or Condition that Changed the Kind and/or Amount of Food Eaten (2)	55	41
Eat Fewer than Two Meals Per Day (3)	4	1
Eat Few Fruits, Vegetables, or Milk Products (2)	65	74
Consume Three or More Drinks of Beer, Liquor, or Wine Almost Every Day (2)	3	*
Have Tooth or Mouth Problems that Make Eating Hard (2) [a]	--	--
Don't Always Have Enough Money to Buy Food (4)	26	25
Eat Alone Most of the Time (1)	41	29
Take Three or More Different Prescriptions or Over-the-Counter Drugs a Day (1)	46	46
Without Wanting to, Have Lost or Gained 10 Pounds in the Past Six Months (2)	32	18
Not Always Physically Able to Shop, Cook, and/or Feed Self (2)	13	36
Nutritional Health Index Score		
0 to 2 (Good)	19	22
3 to 5 (Moderate Risk)	36	40
6 or More (High Risk)	44	38
Mean	5.0	5.1
Median	5.0	5.0
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Question not asked.

* = Less than 0.5 percent.

using four questions about household circumstances that several researchers recently used to assess the degree of food insecurity in the United States (Burt 1993; Cohen and Young 1993; and Food Research and Action Center 1987). These household circumstances refer to one or more of the following during the past month: (1) on one or more days the participant had no food in the house and no money or food stamps to buy food; (2) the participant had to choose between buying food and buying medications; (3) the participant had to choose between buying food and paying rent or utility bills; or (4) the participant skipped one or more meals because he or she had no food in the house and had no money or food stamps to buy food.

Most Title VI meal program participants reported having enough food to eat. Relatively small but meaningful proportions of congregate and home-delivered participants, however, reported one or more instances of food insecurity *during the past month*, despite participating in the ENP.[6] Seventeen percent of congregate and 15 percent of home-delivered participants mentioned experiencing one or more circumstances of food insecurity during the past month (Table II.7). The most frequently mentioned circumstances involve a choice of how to spend scarce household resources--whether to buy food or pay rent, utility bills, or buy needed medication. Smaller percentages of home-delivered and congregate participants reported having no food in the house or skipping meals because of having no food or resources to buy food during the past month. Note that while the percentages appear relatively modest, they mean that, *within the 30 days preceding the interview, approximately 13,500 Title VI congregate and home-delivered participants experienced food insecurity*. Food insecurity is somewhat higher for Title VI

[6]The current evaluation asked about food insecurity for participants during the past month, allowing them to respond, "Yes, I experienced this circumstance during the past month," or "No, I did not experience this circumstance during the past month." Other researchers have used a wider reference period, allowing the following responses to questions about whether the respondent experienced food insecurity: (1) Yes, in the past month; (2) Yes, in the past six months, but not in the past month; (3) Yes, but not in the past six months; and (4) No; never. Our measure thus shows the prevalence of recent and acute food insecurity experienced by Title VI participants.

TABLE II.7

FOOD INSECURITY EXPERIENCED BY MEAL PROGRAM PARTICIPANTS
IN A ONE-MONTH PERIOD
(Percentages)

Food Insecurity Circumstance	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Had to Choose Between Buying Food and Buying Medications During Past Month	7	9
Had to Choose Between Buying Food and Paying Rent or Utility Bills During Past Month	11	10
One or More Days During Past Month Had No Food in the House and No Money or Food Stamps to Buy Food	8	7
One or More Days During Past Month Skipped Meals Because Had No Food or Money/Food Stamps to Buy Food	5	6
Experienced Food Insecurity During Past Month[a]	17	15
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Percentage of participants who experienced one or more of the four preceding food insecurity circumstances during the past month.

congregate than home-delivered meal participants (17 percent versus 15 percent), but this difference is not statistically significant.

Examining the individual food insecurity indicators shows that the most frequently mentioned circumstances involve a choice of how to spend scarce household resources--whether to buy food or pay for rent, utility bills, or needed medicines. Nine percent of home-delivered meal program participants said that they had to choose between buying food and medicines during the past month; 10 percent also reported having to choose between buying food and paying rent or utility bills. The percentages for congregate participants are 7 percent and 11 percent, respectively. In general, smaller percentages of home-delivered and congregate participants reported having no food in the house or skipping meals because they had no food or resources to buy food during the past month. Approximately eight percent each of congregate and home-delivered participants reported experiencing one or more days during the past month in which they had no food in the house and no money or food stamps to buy food. Five percent of Title VI congregate and home-delivered meal participants skipped meals on one or more days during the past month because they had no food or money to buy food.

Title VI participants are much more likely to experience food insecurity than elderly persons in the overall U.S. population. Using the same four questions, *but using the preceding six months as a reference period*, Burt (1993) found that five percent of elderly persons age 65 and older in the overall population experienced one or more of the four food insecurity circumstances. Thus, approximately 1 in 6 congregate participants and 1 in 6 home-delivered participants experienced food insecurity during the *preceding month*, compared with 1 in 20 elderly persons in the overall U.S. population who experienced food insecurity in the *preceding six months*. The differences between Title VI participants and the overall elderly population would probably be even larger if the current evaluation had used a six-month reference period.

4. Overall 24-Hour Dietary Intake

Title VI meal program participants, on average, have daily nutrient intakes that meet or exceed the RDAs of the National Research Council (NRC) for several nutrients.[7] However, significant numbers of participants fail to attain the RDAs. When a more conservative, albeit somewhat arbitrary, target criterion of meeting two-thirds of the RDAs is used, the percentage of Title VI participants meeting the RDA targets, based on analysis of a single day's intake, is considerably higher. The appropriateness of the RDAs for the older population is controversial. These recommendations are designed to meet the needs of healthy persons but do not consider increased nutrient requirements that may be introduced by chronic health problems, medications that interfere with nutrient utilization, physiological changes with advanced age, and so forth. The interpretation of these findings, particularly in reference to the two-thirds RDA, must be done cautiously. Our examination of total intake of macronutrients, sodium, and dietary cholesterol over the 24-hour period shows that, especially for elderly males, participants' intake of total fat and saturated fat as a percentage of total calories and the intake of sodium are higher than recommended levels. Furthermore, intake of carbohydrate as a percentage of total calories is lower than the recommended level. When interpreting the findings on the macronutrient content of participants' overall diets, it should be noted that some nutrition experts believe the recommended maximum levels of total fat and saturated fat as a percentage of calories for elderly people may be overly stringent. The argument is that the full implications of lowering total and saturated fat intakes on longer-term health outcomes in the elderly are unknown. Furthermore, reducing total and saturated fat intakes may result in lowering the intakes of much-needed calories and other essential nutrients for this population, and these intakes need to be carefully managed to preserve the nutrient density of the diet.

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[7]Intakes discussed in this section refer to total intake over 24 hours and include nutrients from program meals. The nutrient intakes from program meals by participants are discussed in more detail in Chapter III. Chapter IV discusses the nutrients available in program meals as offered or served.

As a context for assessing participants' 24-hour nutrient intake, it is important to describe the requirements used to assess the adequacy of participants' diets first.[8] This information is provided next.

a. Description of Dietary Requirements Used to Assess Participants' Diets

The 1992 amendments to the Older Americans Act require the meals served by the program to comply with the *Dietary Guidelines for Americans*, published by DHHS and the U.S. Department of Agriculture (USDA), and to meet the RDAs. We used these recommendations to assess the dietary adequacy of *all meals* eaten by program participants during the 24 hour period, inclusive of program and nonprogram meals.

The *Dietary Guidelines* make several recommendations about how Americans should eat; however, most of the recommendations are not specified in quantitative terms. The following specific quantitative recommendations, are provided for total fat and saturated fat in an individual's overall diet:

- Intake from total fat should not exceed 30 percent of total food energy (calories).
- Intake from saturated fat should not exceed 10 percent of total food energy (calories).

The NRC does provide some quantitative benchmarks for some of the recommendations in the *Dietary Guidelines*:

- Intake from carbohydrates should exceed 55 percent of total food energy (calories).
- Intake of dietary cholesterol should not exceed 300 mg per day.
- Intake of sodium should not exceed 2,400 mg per day.
- Intake of protein should not exceed twice the RDA for protein.

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[8]See Chapter I, Section B.7, for a discussion of the appropriateness of these requirements for the elderly population.

The NRC recommendations are used in the current evaluation to operationalize the nonquantitative recommendations of the *Dietary Guidelines* and to provide additional quantitative measures for assessing the adequacy of participants' diets.[9]

b. 24-Hour Intake of Food Energy (Calories) and Nutrients

Title VI participants' average daily intakes meet or exceed the RDAs for the majority of nutrients. Mean intakes for both congregate and home-delivered participants meet or exceed the RDAs for protein, Vitamin A, Vitamin C, thiamin, riboflavin, niacin, folate, Vitamin B_{12}, iron, phosphorous, and potassium (Table II.8). Participants' average intake of food energy (calories) is below the RDA, equaling 80 percent for congregate participants and 73 percent for home-delivered ones. Mean intakes are also below the RDAs for Vitamin D, Vitamin E, Vitamin B_6, calcium, magnesium, and zinc. The typical Title VI participant's intake is nutrient dense, however; average intake of food energy (calories) is below the RDA, but the average intakes of most other nutrients meet or exceed the RDAs.

The typical Title VI congregate and home-delivered meal program participants' intakes meet or exceed the RDAs for most nutrients, but significant numbers do not consume 100 percent of the RDAs (not shown). As stated earlier, the RDAs are set "conservatively" and may be too high for many in the population. If we use two-thirds of the RDAs as a less conservative target, based on analysis of a single day's intake, the percentage who meet the RDAs is considerably higher.

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[9]The first recommendation in the *Dietary Guidelines*--eat a variety of foods--is specified in terms of a suggested number of daily servings from each of five basic food groups (see Chapter I, Section A.3). As part of the ENP evaluation, MPR field interviewers collected data on the amounts of foods individuals consumed during each eating occasion in the 24-hour dietary intake observation period, as well as the amounts of foods provided in ENP meals. However, because of limited study resources, we did not analyze and assess whether individuals' overall diets and ENP program meals meet the *Dietary Guidelines'* recommendation on food variety.

TABLE II.8

MEAL PROGRAM PARTICIPANTS' 24-HOUR NUTRIENT INTAKES
(As a Percentage of the RDAs)

	Title VI Congregate Meal Participants			Title VI Home-Delivered Meal Participants		
Nutrient	Mean	Median	Percentage of Clients Attaining Two-Thirds of the RDA	Mean	Median	Percentage of Clients Attaining Two-Thirds of the RDA
Food Energy (Calories)	80	76	63	73	68	55
Protein	125	121	87	114	103	83
Vitamin A	99	71	55	103	72	54
Vitamin C	122	100	64	133	102	64
Vitamin D	96	69	54	93	74	57
Vitamin E	85	69	52	67	55	41
Thiamin	134	124	89	137	127	88
Riboflavin	120	111	86	120	113	84
Niacin	140	139	90	125	119	91
Vitamin B_6	86	77	59	78	77	60
Folate	125	107	76	118	106	82
Vitamin B_{12}	230	160	90	176	147	80
Calcium	79	67	51	75	68	53
Iron	132	116	84	115	107	82

TABLE II.8 *(continued)*

Nutrient	Title VI Congregate Meal Participants			Title VI Home-Delivered Meal Participants		
	Mean	Median	Percentage of Clients Attaining Two-Thirds of the RDA	Mean	Median	Percentage of Clients Attaining Two-Thirds of the RDA
Phosphorous	133	124	88	124	112	89
Potassium	132	125	88	116	112	86
Magnesium	84	79	61	77	75	68
Zinc	74	66	49	65	57	40
Unweighted Sample Size	**212**	**212**	**212**	**213**	**213**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

RDA = Recommended Dietary Allowance.

c. 24-Hour Intake of Macronutrients, Sodium, and Dietary Cholesterol

The diets of Title VI congregate and home-delivered meal program participants tend to, on average, have higher than recommended levels of fat and sodium and lower than recommended levels of carbohydrate. Average intake of dietary cholesterol, however, is favorable and within recommended levels.

Title VI congregate participants, on average, consume 49 percent of their food energy (calories) in carbohydrates. This level is below the 55 percent level recommended by the NRC (Table II.9). The typical home-delivered meal participant consumes 52 percent of calories as carbohydrate, slightly below the recommended level.

The typical congregate participant consumes 35 percent of his or her daily food energy (calories) in total fat, while the average home-delivered participant consumes 33 percent. (The *Dietary Guidelines* recommend that fat intake not exceed 30 percent.) About 30 percent of congregate and 18 percent of home-delivered participants consume more than 40 percent of their food energy as fat. Similar patterns exist for saturated fat intake. The typical congregate and home-delivered participant consumes 12 percent of total calories as saturated fat, 20 percent higher than recommendation of 10 percent; about 20 percent of both congregate and home-delivered participants consume 16 percent or more of their food energy as saturated fat.

As pointed out earlier, some nutrition experts suggest that the recommended maximum levels of total fat and saturated fat as a percentage of calories for elderly people are overly stringent, because of difficulties inherent in achieving a nutrient-dense diet, unless reduction in fat is carefully planned. It is also possible that lowering fat intake may reduce weight in persons for whom this reduction may be undesirable. Thus, the elevated daily intakes of total fat and saturated fat relative to recommended levels for the typical participant need to be carefully considered, and efforts to lower these intakes need to be planned and closely monitored. Tempering this, however, is the fact that a high proportion of both the Title

TABLE II.9

MEAL PROGRAM PARTCIPANTS' 24-HOUR INTAKE OF MACRONUTRIENTS, SODIUM, AND CHOLESTEROL

Dietary Component	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Carbohydrate		
Mean Percentage of Food Energy (Calories)	49	52
Median Percentage of Food Energy (Calories)	49	51
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 45 percent	35	25
45 to 55 percent	42	40
56 to 65 percent	16	25
More than 65 percent	7	9
Total Fat		
Mean Percentage of Food Energy (Calories)	35	33
Median Percentage of Food Energy (Calories)	35	33
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 20 percent	5	4
20 to 30 percent	24	33
31 to 35 percent	22	21
36 to 40 percent	17	23
41 to 50 percent	29	17
More than 50 percent	2	1
Saturated Fat		
Mean Percentage of Food Energy (Calories)	12	12
Median Percentage of Food Energy (Calories)	12	11

TABLE II.9 *(continued)*

Dietary Component	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	2	3
5 to 10 percent	34	38
11 to 15 percent	45	40
16 to 20 percent	15	17
More than 20 percent	4	2
Protein		
Mean Percentage of Food Energy (Calories)	17	17
Median Percentage of Food Energy (Calories)	17	16
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	*	*
5 to 15 percent	40	38
16 to 25 percent	56	56
More than 25 percent	4	6
Sodium		
Mean Intake (mg Per Day)	2,873	2,752
Median Intake (mg Per Day)	2,674	2,591
Distribution of Intake (Percentage)		
Less than 2,400 mg per day	44	43
2,401 to 3,000 mg per day	16	24
More than 3,000 mg per day	40	33
Dietary Cholesterol		
Mean Intake (mg Per Day)	271	249
Median Intake (mg Per Day)	194	162

TABLE II.9 *(continued)*

Dietary Component	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Distribution of Intake (Percentage)		
Less than 300 mg per day	71	73
300 to 400 mg per day	11	5
More than 400 mg per day	18	22
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTES: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day. The *Dietary Guidelines* recommend that intakes of (1) total fat should be 30 percent or less of food energy, and (2) saturated fat should be 10 percent or less of food energy. The National Research Council recommends that intakes of (1) cholesterol should be less than 300 mg per day, (2) sodium chloride should not exceed 2,400 mg per day, and (3) carbohydrates should be at least 55 percent of food energy.

* = Less than 0.5 percent.

VI congregate and home-delivered participant population have estimated BMIs above 27, which indicates they are overweight and at risk for obesity, so some reduction in fat intake may be warranted.

Daily sodium intakes for Title VI congregate and home-delivered meal program participants average 2,873 mg and 2,752 mg, respectively. These amounts exceed the 2,400 daily recommendation (Table II.9). Forty percent of congregate and 33 percent of home-delivered participants consume more than 3,000 mg of sodium daily, exceeding the recommended daily intake by more than 25 percent.

For dietary cholesterol, average intake for Title VI participants is within the recommendation of under 300 mg per day. The mean daily intake of cholesterol for congregate participants is 271 mg; for home-delivered participants, the amount is 249 mg. About 20 percent of congregate and home-delivered meal participants, however, consume more than 400 mg of dietary cholesterol per day.

d. Comparisons with the Overall Elderly U.S. Population

To get a sense of how Title VI participants fare relative to the overall elderly population in the United States, we compared the 24-hour dietary intakes of Title VI congregate and home-delivered participants with those of the overall elderly population age 60 and older.[10] This was done separately for females and males.[11] Some caution is necessary in interpreting these findings, particularly the ones on intakes of food energy (calories) and other nutrients whose requirements change with age, because the female and male participant populations, on average, are younger than the general elderly population.

Female Participants. The mean intakes of food energy and nutrients *for both* Title VI congregate and home-delivered elderly female participants are lower than the mean intakes for the overall elderly

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[10]Unlike for Title III, the current evaluation did not include a sample of persons who were eligible but not participating in the Title VI congregate or home-delivered programs. Thus, we cannot compare the 24-hour dietary intakes of Title VI participants with those of eligible nonparticipants.

[11]The tables show the average daily nutrient intakes of Title VI participants age 60 and older. The results are the same when all Title VI participants (inclusive of those under age 60) are considered. We present the results based on participants age 60 and older because the comparison group is age 60 and older, and this presentation is consistent with our analysis of Title III findings.

female population in the United States (Table II.10). For example, elderly female Title VI congregate and home-delivered participants, on average, consume about 135 mg less of calcium on a given day than females in the overall elderly population (535 mg versus 675 mg). Female participants' average daily intake of calcium is particularly low, given that the RDA for calcium is 800 mg. This low intake of calcium, combined with the low intake of vitamin D, is a particular concern given the increased risk of osteoporosis in older women. Elderly female Title VI congregate and home-delivered participants consume approximately 6 μg of vitamin E on a given day, compared with 8 μg for the overall female elderly population (the RDA for vitamin E is 8 μg). Elderly female Title VI congregate and home-delivered participants, on average, consume about 20 percent less vitamin B_6 daily, compared with the overall female elderly population (1.3 μg versus 1.6 μg).

In some cases, however, Title VI participants' lower average intakes, relative to those of the overall elderly population, indicate a more favorable outcome. For example, both congregate and home-delivered elderly female participants, on average, consume somewhat less sodium than the overall female elderly population. In addition, elderly female home-delivered participants consume less total fat. However, their intakes are still above the recommended levels, which place them at increased risk for heart diseases.

Male Participants. Male elderly Title VI congregate participants' mean intakes of food energy and nutrients generally exceed the mean intakes for the overall male elderly population in the United States. The average intakes of food energy (calories) and other nutrients for male home-delivered participants are generally lower than the intakes for the overall male elderly population, however (Table II.11). Exceptions are for vitamin A, vitamin C, thiamin, riboflavin, folate, and calcium. The intakes of saturated fat, cholesterol, and sodium by Title VI elderly male congregate and home-delivered participants are less favorable, being higher, on average, than the intakes for the overall elderly male population and above the maximum recommended levels.

TABLE II.10

AVERAGE DAILY NUTRIENT INTAKES OF FEMALE MEAL PROGRAM PARTICIPANTS AGE 60 AND OLDER, COMPARED WITH OVERALL U.S. ELDERLY FEMALE POPULATION

Nutrient	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants	U.S. Elderly Population (60+)	Recommended Daily Allowance
Food Energy (Calories)	1,402	1,333	1,482	1,900
Protein (g)	58	55	60	50
Vitamin A (μg)	741	929	1,114	800
Vitamin C (mg)	73	76	105	60
Vitamin D (μg)	4.0	3.9	NA	5.0
Vitamin E (mg α-TE)	6.3	5.4	7.9	8.0
Thiamin (mg)	1.3	1.3	1.4	1.0
Riboflavin (mg)	1.3	1.4	1.6	1.2
Niacin (mg)	16.4	15.9	18.3	13.0
Vitamin B_6 (mg)	1.3	1.3	1.6	1.6
Folate (μg)	213	217	272	180
Vitamin B_{12} (μg)	3.8	3.3	3.8	2.0
Calcium (mg)	544	529	669	800
Iron (mg)	11.3	11.3	12.7	10.0
Phosphorous (mg)	907	873	987	800
Potassium (mg)	2,267	2,124	2,427	2,000
Magnesium (mg)	228	216	246	280
Zinc (mg)	8.1	7.5	9.0	12.0
Carbohydrate (g)	175	174	190	NA
Total Fat (g)	54	49	55	NA
Saturated Fat (g)	18.8	17.0	18.6	NA
Cholesterol (mg)	214	206	197	300[a]
Sodium (mg)	2,311	2,430	2,459	2,400[a]
Carbohydrate as Percentage of Food Energy (Calories)	51.0	53.1	52.2	55.0[a]
Protein as Percentage of Food Energy (Calories)	16.8	16.6	16.5	15.0[a]
Total Fat as Percentage of Food Energy (Calories)	33.7	31.8	32.3	30.0[a]

TABLE II.10 *(continued)*

Nutrient	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants	U.S. Elderly Population (60+)	Recommended Daily Allowance
Saturated Fat as Percentage of Food Energy (Calories)	11.9	11.2	10.9	10.0[a]
Unweighted Sample Size	**113**	**126**	**1,280**	**NA**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations; National Center for Health Statistics 1994.

NOTES: Tabulations are weighted to be representative of a cross-section of female participants receiving Title VI meals on a given day. Tabulations in this table are for Title VI participants age 60 and older. Figures for U.S. elderly population are authors' tabulations of published NHANES III data cited under source.

NA = Not available.

[a]Recommended daily intake based on the *Dietary Guidelines* and NRC recommendations.

NA = not available.
g = grams.
mg = milligrams.
µg = micrograms.
RE = retinol equivalents.
mg α-TE = milligrams alpha-tocopherol equivalents.

TABLE II.11

AVERAGE DAILY NUTRIENT INTAKE OF MALE MEAL PROGRAM PARTICIPANTS AGE 60 AND OLDER, COMPARED WITH OVERALL U.S. ELDERLY MALE POPULATION

Nutrient	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants	U.S. Elderly Population (60+)	Recommended Daily Allowance
Food Energy (Calories)	2,095	1,818	1,989	2,300
Protein (g)	87	78	79	63
Vitamin A (μg)	1,116	798	1,296	1,000
Vitamin C (mg)	78	77	104	60
Vitamin D (μg)	7.2	6.7	NA	5.0
Vitamin E (mg α-TE)	10.0	6.5	9.4	10.0
Thiamin (mg)	1.7	1.8	1.7	1.2
Riboflavin (mg)	2.0	1.9	2.1	1.4
Niacin (mg)	25.8	19.9	23.7	15.0
Vitamin B_6 (mg)	2.0	1.5	2.0	2.0
Folate (μg)	287	225	318	200
Vitamin B_{12} (μg)	6.7	4.2	5.8	2.0
Calcium (mg)	762	763	830	800
Iron (mg)	17.1	12.7	16.3	10.0
Phosphorous (mg)	1,342	1,253	1,296	800
Potassium (mg)	3,271	2,701	2,964	2,000
Magnesium (mg)	327	276	311	350
Zinc (mg)	12.4	10.3	12.4	15.0
Carbohydrate (g)	243	217	242	--
Total Fat (g)	88	72	76	--
Saturated Fat (g)	29.3	26.4	25.8	--
Cholesterol (mg)	354	351	289	300[a]
Sodium (mg)	3,823	3,438	3,241	2,400[a]
Carbohydrate as Percentage of Food Energy (Calories)	47.0	48.7	49.3	55.0[a]
Protein as Percentage of Food Energy (Calories)	17.1	17.3	16.2	15.0[a]
Total Fat as Percentage of Food Energy (Calories)	36.8	34.9	33.5	30.0[a]

TABLE II.11 *(continued)*

Nutrient	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants	U.S. Elderly Population (60+)	Recommended Daily Allowance
Saturated Fat as Percentage of Food Energy (Calories)	12.4	12.8	11.4	10.0[a]
Unweighted Sample Size	**66**	**52**	**1,286**	--

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations; National Center for Health Statistics 1994.

NOTES: Tabulations are weighted to be representative of a cross-section of male participants receiving Title VI meals on a given day. Tabulations shown in this table are for Title VI participants 60 years of age and older. Figures for U.S. elderly population are authors' tabulations of published NHANES III data cited under source.

[a]Recommended daily intake based on the *Dietary Guidelines* and NRC recommendations.

NA = not available.
g = grams.
mg = milligrams.
µg = micrograms.
RE = retinol equivalents.
mg α-TE = milligrams alpha-tocopherol equivalents.

D. PROGRAM PARTICIPATION CHARACTERISTICS

1. How Long Ago Participants Began Participating

Eighty-six percent of Title VI congregate participants and 81 percent of home-delivered participants first enrolled in the meal program more than a year ago (Table II.12). Ten percent of congregate and 15 percent of home-delivered participants enrolled within the past six months. As a group, congregate participants have been participating longer. Forty-two percent of congregate participants enrolled more than five years ago, compared with just 22 percent of home-delivered participants.

2. Method of Referral to the Program

Family, friends, and neighbors are an important source through which Title VI participants first learn about the meal program. Home-delivered meal participants, however, are much more likely than congregate participants to be referred to the program from a community-based organization. Sixty percent of Title VI congregate participants hear about the program from family, friends, or neighbors. The corresponding percentage for home-delivered participants is 42 percent. Home-delivered participants are more than twice as likely to be referred to the program by hospitals or other community-based organizations (43 percent versus 16 percent). Nearly 15 percent of home-delivered participants received one or more other home- or community-based long-term care services (for example, transportation, home health, personal care, and homemaker services) before receiving program meals, compared with fewer than 5 percent of congregate participants. Few Title VI participants were on a waiting list before receiving their first program meals. This pattern is consistent with anecdotal evidence from sites that the Title VI philosophy is to provide at least some meals to all eligible people in the service area who want the service. One percent of home-delivered meal participants and fewer than 0.5 percent of congregate participants were on a waiting list.

TABLE II.12

MEAL PROGRAM PARTICIPANTS' REFERRAL TO THE PROGRAM
(Percentages)

	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
How Long Ago Began Participating		
Less than 6 months	10	15
6 to 11 months	4	4
1 to 5 years	44	58
6 to 10 years	23	13
More than 10 years ago	19	9
How First Heard About the Program		
Family member, friend, or neighbor	60	42
Community-based organization or hospital	16	43
Newspaper, radio, or television	2	1
Posters or announcement in mail	1	5
Announcement in church or club	4	*
Other method	18	9
On Waiting List Before Receiving Meals	*	1
Received Other Home- or Community-Based Long-Term Care Services Before Receiving Meals[a]	3	13
Unweighted Sample Size	**213**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]The most commonly mentioned long-term care services were home health, personal care, and homemaker chore services. Congregate participants most commonly mentioned transportation, homemaker chore, and personal care services.

* = Less than 0.5 percent.

3. Attendance/Meal Receipt Patterns

Many of the Title VI congregate participants who receive a program meal on a given day attend the congregate meal site frequently. A little more than half of Title VI congregate participants who attend a site on a given day usually attend four or more days a week (Table II.13). Almost all congregate participants (92 percent) go to one site for meals. Fifty-one percent of congregate participants receive five or more meals per week from the site. Twenty-one percent take other meals, generally full meals but sometimes snacks or combinations of full meals/snacks, home from the congregate meal site to eat later. (These are not leftovers from the meals participants consume during the day.) Most participants usually spend a significant amount of time at the congregate site on a given day. Sixty-one percent reported spending more than an hour there. Nearly 20 percent of Title VI congregate participants reported receiving home-delivered meals regularly at some time in the past, with most discontinuing participation because they were no longer eligible or no longer needed to receive program meals delivered to their homes.

Most Title VI home-delivered participants receive program meals frequently. Eighty-four percent usually receive five or more program meals weekly (Table II.14). Ninety-three percent of those who receive fewer than five meals weekly, or 15 percent of Title VI home-delivered participants overall, would like to receive more meals from the program but say they cannot get them. Home- delivered participants typically receive only one program meal daily, usually a hot lunch. (Eighty percent receive lunch only, but 20 percent receive lunch and dinner/supper.) All home-delivered participants receive hot meals, and 16 percent of those who receive two meals daily also receive cold, ready-to-eat meals. About half of Title VI home-delivered participants usually eat their entire program meal at one time. Overall, 21 percent of home-delivered participants eat program meal leftovers as part of another meal; 14 percent eat these leftovers as an entire other meal. Eleven percent throw away any leftover program meal food. Nearly one-quarter of current Title VI home-delivered participants regularly participated in the congregate meals program at some time during the past. More than two-thirds of those who received congregate meals in

TABLE II.13

CONGREGATE PARTICIPANTS' PARTICIPATION CHARACTERISTICS
(Percentages)

Participation Characteristic	Title VI Congregate Meal Participants
Number of Days Attend Meal Site Per Week	
Less than 1	5
1 to 3 days	44
4 to 5 days	49
More than 5	2
Number of Different Sites Attended	
1	92
2	6
More than 2	2
Number of Meals Usually Received Per Week	
Less than 1	4
1 to 2	14
3 to 4	31
5 or more	51
Take Other Meals Home from Meal Site to Eat Later	21
Types of Other Meals Taken Home from Meal Site to Eat Later	
Full meal	14
Snack	6
Some combination	1
Amount of Time Usually Spent at Meal Site Per Visit	
Less than 1 hour	38
1 to 2 hours	51
3 to 4 hours	8
More than 4 hours	2
Received Home-Delivered Meals Regularly in the Past	19
Reasons No Longer Receiving Home-Delivered Meals[a]	
No longer need them	11
No longer eligible	6
Other reasons	78
Unweighted Sample Size	**212**

TABLE II.13 *(continued)*

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI congregate meals on a given day.

[a]Calculated only for congregate participants who received home-delivered meals sometime during the past.

TABLE II.14

HOME-DELIVERED PARTICIPANTS' PARTICIPATION CHARACTERISTICS
(Percentages)

Participation Characteristic	Title VI Home-Delivered Meal Participants
Number of Meals Usually Received Per Week	
Less than 1	*
1 to 2	4
3 to 4	12
5 or more	84
Reasons Why Participant Usually Receives Fewer than 5 Meals Per Week[a]	
Cannot get more from the program	93
Other	7
Type of Program Meals Usually Received	
Lunch only	80
Supper/dinner only	*
Combination	20
Type of Preparation Methods for Meals Usually Received[b]	
Hot meals	100
Cold, ready to eat	16
Cold or frozen, need to be reheated	1
Program Meal Usage	
Usually eat entire program meal in one sitting	50
Eat leftovers as another meal or snack	14
Eat leftovers as part of another meal	21
Throw leftover portion away	11
Other	4
Received Congregate Meals Regularly in the Past	23

TABLE II.14 *(continued)*

Participation Characteristic	Title VI Home-Delivered Meal Participants
Reasons No Longer Receiving Congregate Meals [c]	
Too many health problems to get to program	47
No transportation to program	4
Did not need it	11
Did not like other participants	1
Other	34
Unweighted Sample Size	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI home-delivered meals on a given day.

[a]Calculated only for home-delivered participants who usually get fewer than five program meals per week.

[b]Percentages total more than 100 percent because participants can receive different types of meals during the week.

[c]Calculated only for home-delivered participants who regularly received congregate meals during the past. Percentages may total more than 100 percent because of multiple responses.

* = Less than 0.5 percent.

the past, or 15 percent of current home-delivered participants overall, discontinued participating in the congregate meals program because of health problems or lack of transportation.

4. Voluntary Contributions for Program Meals

Participants are given the opportunity to contribute toward the costs of meals. Few Title VI participants make voluntary contributions, however, because of limited income. Twenty-four percent of congregate participants typically make a contribution (Table II.15). The proportion contributing for meals is lower for Title VI home-delivered participants, at 16 percent. Those making contributions typically offer about $1.00 per meal. Congregate participants' average contribution equals $.31, compared with $.23 for home-delivered participants, when those who do and do not contribute are considered.

E. RECEIPT OF NUTRITION AND SUPPORTIVE SERVICES

Table II.16 shows receipt of nutrition and supportive services during the past year, separately for Title VI congregate and home-delivered participants. Service receipt is grouped in two categories: (1) services from public or private sources, not including family, friends, and neighbors; and (2) services from all sources, inclusive of family, friends, and neighbors.

For nutrition and supportive services received from a public or private source only, Title VI congregate participants are most likely to receive recreation and nutrition education services, as well as nutrition screening or assessment. Sixty-three percent received nutrition education from the meal site or from some other public or private source during the past year. Furthermore, 61 percent participated in recreation at the meal site or at some other public or private source. About one-half received nutrition screening and/or assessment from a public or private source. About one-quarter used special transportation to get to and from the meal site and used information and referral services, also from a public or private source. Few made use of home- and community-based long-term care services, such as personal care, homemaker, or home health services.

TABLE II.15

PARTICIPANT-REPORTED MEAL CONTRIBUTIONS

	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Percentage Who Make a Contribution	24	16
Dollar Amount Usually Contributed (Only for Those Making a Contribution)		
Mean	1.30	1.45
Median	1.00	1.00
Mean Dollar Amount Usually Contributed (Calculated for All Participants)	0.31	0.23
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

TABLE II.16

USE OF MEAL AND SUPPORTIVE SERVICES BY MEAL PROGRAM PARTICIPANTS DURING THE PAST YEAR
(Percentages)

Program Service Use	Title VI Congregate Meal Participants		Title VI Home-Delivered Meal Participants	
	Public or Private Source Only[a]	All Sources[b]	Public or Private Source Only[a]	All Sources[b]
Receive 5 or More Program Meals Per Week	51	51	85	85
Use Special Transportation to Get to Meal Site	26	26	n.a.	n.a.
Receive Assisted Transportation	27	28	15	18
Receive Nutrition Screening or Assessment	49	49	31	31
Receive Nutrition Education	63	63	48	49
Receive Nutrition Counseling	26	28	22	24
Receive Recreation Services	61	61	n.a.	n.a.
Receive Personal Care Services	2	5	6	18
Receive Homemaker Chore Services	7	30	8	56
Receive Home Health Aide Services	7	8	8	10
Receive Adult Day Care Services	1	1	*	*
Use Information and Referral Services	24	25	11	13
Other Services	8	9	4	7
Percentage of Participants Receiving:				
1 to 2 services	23	17	57	37
3 to 4	39	38	36	42
5 to 6	29	34	6	16
More than 6	8	11	1	6
Mean	4.0	4.3	2.5	3.3
Median	4.0	4.0	2.0	3.0
Unweighted Sample Size	**212**	**212**	**213**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTES: Use of transportation to and from meal site and receipt of recreation services are not applicable to home-delivered participants. Home-delivered participants can receive between 1 and 11 services; congregate participants can receive between 1 and 13. Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Participant receives service from any public or private source, but source does not include family, friends, or neighbors.

[b]Participant receives service from any source, including family, friends, or neighbors.

n.a. = Not applicable.

* = Less than 0.5 percent.

Except for home-delivered meals, no more than 50 percent of Title VI home-delivered participants received any one of the nutrition or supportive services from a public or private source. Forty-eight percent received nutrition education from a public or private source, and 31 percent received nutrition assessment/screening. Only 22 percent received nutrition counseling. Fewer than 10 percent received home- or community-based long-term care services, such as personal or home health care, from a public or private source.

The percentages of Title VI participants receiving nutrition and supportive services are generally higher when services provided by family, friends, and neighbors are counted; this is especially true for long-term care services. For example, the percentage of congregate participants who received homemaker services increases from 7 percent to 30 percent when assistance from family, friends, and neighbors is included. The percentage for home-delivered participants increases from 8 percent to 56 percent when this source of assistance is included (Table II.16).

F. PARTICIPATION IN OTHER FEDERAL, STATE, AND LOCAL FOOD AND NONFOOD ASSISTANCE PROGRAMS

More than one-third of Title VI congregate participants and 40 percent of home-delivered participants reported receiving food stamps or commodities from the Food Distribution Program on Indian Reservations (FDPIR) or the Surplus Commodity Foods Program (Table II.17).[12] Fewer than 10 percent of either congregate or home-delivered participants receive food from food pantries or soup kitchens. Significant proportions use other federal nonfood assistance. Approximately 70 percent of congregate participants and 80 percent of home-delivered participants receive social security income. Thirty-eight percent of home-delivered meal participants and 22 percent of congregate participants receive Supplemental Security Income (SSI). Approximately 15 percent of congregate and 20 percent of home-

[12]Tribal elders can get commodities from two programs--the FDPIR and the Surplus Commodities Program. The FDPIR is an alternative to the Food Stamp Program for low-income persons residing on or near Indian reservations. Benefits are food packages distributed monthly.

TABLE II.17

PARTICIPATION IN OTHER FOOD AND NONFOOD ASSISTANCE PROGRAMS
(Percentages)

Program	Title VI Congregate Meal Participants	Title VI Home-Delivered Meal Participants
Receive Food Stamps or USDA Commodities[a]	35	44
Receive Food from Food Pantries	7	10
Receive Other Local Food Assistance	2	2
Receive Medicaid Benefits	15	29
Live in Public Housing	16	22
Receive Supplemental Security Income (SSI)	22	38
Receive General Assistance Income	14	8
Receive Social Security Income	69	83
Receive Social Security Disability Insurance Income	10	17
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Includes the Surplus Commodities Program and Food Distribution Program on Indian Reservations (FDPIR). The FDPIR is an alternative to the Food Stamp Program for low-income persons residing on or near Indian reservations. Benefits are food packages distributed monthly.

delivered participants live in tribal (public) housing. Fifteen percent of congregate participants and 29 percent of home-delivered participants receive federal or state-funded Medicaid benefits.

G. SOCIAL INTERACTIONS AND ACTIVITIES

1. Types and Frequency of Selected Social Interactions and Social Activities

Title VI congregate participants are fairly active. Seventy-six percent see relatives, friends, or neighbors at least once per week (Table II.18). These weekly activities include visiting each other's homes or going out together. Fifty-one percent of congregate participants attend religious services or ceremonies once or more weekly. Seventy-nine percent go to a congregate meal site more than twice a week to receive nutritious meals and to socialize. The majority of congregate participants (67 percent) reported talking on the telephone with family, friends, and neighbors more than twice a week.

Home-delivered meal program participants are less active outside the home than congregate participants. The typical home-delivered participant gets together with relatives, friends, and neighbors about four times per month, compared with nearly nine times for congregate participants. Fewer than a third attend religious services or ceremonies once or more weekly, compared with 50 percent of congregate participants. Eighty-three percent of home-delivered participants have contact with the meal delivery person four or more times a week.

2. Number of Social Interactions and Activities and Contribution, by Source

If we include interactions related to the ENP (either attendance at a meal site or receipt of a home meal delivery), as well as interactions with in-home providers of personal care, homemaker, and nursing care, the average Title VI meal program participant has approximately 90 social contacts per month (Table II.19). Home-delivered participants have somewhat fewer contacts than congregate participants (87 versus 92 per month). Although these may be briefer interactions, they are important contacts.

TABLE II.18

MEAL PROGRAM PARTICIPANTS' SOCIAL INTERACTIONS DURING THE PAST YEAR
(Percentages, Unless Stated Otherwise)

Type of Social Contact	Title VI Congregate Meal Participants	TitleVI Home-Delivered Meal Participants
Times Per Month Talk on the Telephone with Family, Friends, or Neighbors		
Never	21	34
1 to 10 times	12	14
11 to 19 times	8	4
More than 19 times	59	48
Median number of times	30.0	12.9
Times Per Month See Relatives, Friends, or Neighbors		
Never	11	25
Less than once	9	6
1 to 3 times	4	8
4 to 10 times	35	25
11 to 19 times	18	12
More than 19 times	23	23
Median number of times	8.6	4.3
Times Per Month Attend Religious Services or Ceremonies		
Never	35	52
Less than once	11	15
1 to 2 times	4	3
3 to 4 times	38	23
More than 4 times	13	8
Median number of times	3.0	0.0
Times Per Month Attend Club Meetings		
Never	76	81
Less than once	16	11
1 to 2 times	2	1
More than 2 times	7	8
Median number of times	0.0	0.0

TABLE II.18 *(continued)*

Type of Social Contact	Title VI Congregate Meal Participants	TitleVI Home-Delivered Meal Participants
Times Per Month Attend Congregate Meals Program Site		
Never	0	100
Less than once	2	0
1 to 3 times	2	0
4 to 10 times	17	0
11 to 19 times	30	0
More than 19 times	49	0
Median number of times	17.2	0.0
Times Per Month Have Contact with Person Delivering Program Meal to Home		
Never	100	0
Less than once	0	0
1 to 3 times	0	0
4 to 10 times	0	4
11 to 19 times	0	13
More than 19 times	0	83
Median number of times	0.0	21.5
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

TABLE II.19

MEAL PROGRAM PARTICIPANTS' MONTHLY NUMBER OF SOCIAL INTERACTIONS DURING THE PAST YEAR

	Title VI Congregate Meal Participants		Title VI Home-Delivered Meal Participants	
	Mean	Median	Mean	Median
Times Per Month Talk on the Telephone or Visit Family, Friends, or Neighbors, or Attend Religious Ceremonies or Clubs	64	41	51	30
Times Per Month Attend Congregate Site or Have Contact with Person Delivering Program Meal	16	17	20	22
Times Per Month Have Social Contacts with Providers of In-Home Supportive Services or Other Social Support Services[a]	11	4	17	9
Total From All Sources	92	74	87	71
Unweighted Sample Size	**212**	**212**	**213**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

[a]Participant receives service from public or private source only.

Title VI congregate and home-delivered participants have approximately the same number of contacts from the meal program (16 versus 20 per month), although the length of these contacts is longer for congregate participants. Congregate participants have more contacts with family, friends, and neighbors, however, while home-delivered participants have more social contacts through in-home care (for example, interactions with providers of personal, homemaker, or home health services).

III. CONTRIBUTION OF THE TITLE VI PROGRAM TO PARTICIPANTS' DIETARY INTAKES AND SOCIAL CONTACTS

Title VI of the Elderly Nutrition Program (ENP) is intended to improve the dietary intakes of participants and to promote their social interactions. Meals served under the Title VI program must meet the same requirements as those served under Title III: they must comply with the U.S. Department of Health and Human Services (DHHS) and U.S. Department of Agriculture *Dietary Guidelines for Americans* and the National Research Council (NRC) Recommended Dietary Allowances (RDAs) for food energy (calories) and selected nutrients. For congregate meals, another program goal is to attract isolated elderly people to meal sites in order to facilitate their social interactions and deliver other nutrition and supportive services that they need.

This chapter presents evaluation findings on the contribution of the Title VI meal program to participants' daily intakes of nutrients and opportunities for socialization. The first section examines the program's contribution to participants' 24-hour dietary intakes, presenting evidence on the fraction of daily intake from program sources. We also compare participants' dietary intakes from program meals with the RDAs and other dietary recommendations. In the second section, we examine the program's contribution to participants' monthly social contacts, using similar methods.

Title VI meal program participants' average dietary intakes from the program meal generally meet or exceed one-third of the RDAs for most nutrients. Average intakes of total fat and saturated fat as a proportion of total food energy (calories) from program meals are higher than recommended levels. Intake of carbohydrate as a percentage of total food energy is below recommendations. Overall, on a day that they attend or receive meals from the program, Title VI participants derive more than 40 percent of their total daily intake from program meals, on average. The program is an important part of participants' social activities and contacts. Under a broad definition of "contacts" that also includes contacts when receiving assistance from public and private home- and community-based long-term care providers, Title VI

program contacts represent about one-third of the typical congregate and home-delivered participants' monthly social activities and contacts.

The remainder of the chapter describes these findings in greater detail.

A. PARTICIPANTS' DIETARY INTAKE FROM PROGRAM MEALS

Although the majority of Title VI home-delivered participants receive five program meals per week, 15 percent do not, largely because of funding limitations and a program philosophy that emphasizes providing at least some meals to all eligible elderly persons in the service area. Of Title VI home-delivered participants sampled for the evaluation, nearly one-quarter did not consume a program meal during the 24-hour recall period. This was usually because the participant did not receive a program meal. Consequently, we report findings on the program's contribution to dietary intakes only for participants who consumed a program meal during the 24-hour dietary recall period.[1]

1. Participants' Intake of Food Energy (Calories) and Nutrients from Program Meals

The Older Americans Act (OAA) requires that nutrition providers serve meals that meet targets based on the RDAs. Program meals must provide a minimum of one-third of the RDAs, if one meal is provided to participants per day; a minimum of two-thirds of the RDAs, if two meals are provided per day; or 100 percent of the RDAs, if three meals are provided per day.[2]

An analysis based on a single day's 24-hour dietary recall shows that Title VI congregate participants' average *intakes of nutrients per program meal* provide at least one-third of the RDAs for most nutrients

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[1]Appendix F in Volume III contains findings for all participants, whether or not they consumed a program meal.

[2]Chapter IV presents findings on the nutrient content of program meals as *served or offered*. It shows that the average program meal meets the explicit program requirement of providing at least one-third of the relevant RDAs. In this section, we address the issue of whether participants' *intakes* per program meal meet or exceed one-third of the RDAs. Even though program meals as offered meet one-third of the RDAs, on average, participants' average intakes of nutrients from program meals may be less because they might not eat all of what is served to them.

(Table III.1).[3] The exceptions are food energy (calories), calcium, magnesium, and zinc. However, the average intakes of these four nutrients are only slightly below one-third of the RDAs, ranging from 29.5 percent for zinc to 32.1 percent for food energy. For 7 of the 18 nutrients examined, intakes from the program meal meet or exceed one-third of the RDAs for two-thirds or more of the congregate participants. For food energy (calories), calcium, and zinc, however, fewer than 40 percent attain one-third of the RDA.

Title VI home-delivered participants' average intakes per program meal meet or exceed one-third of the RDA for all nutrients, except food energy (calories) (25.1 percent), vitamin E (25.1 percent), vitamin B_6 (28.8 percent), magnesium (27.8 percent), and zinc (25.2 percent). Intakes for a significant percentage of home-delivered participants, however, do not meet one-third of the RDAs for the nutrients examined. Fewer than 40 percent of Title VI home-delivered participants achieve one-third of the RDAs for food energy, vitamin E, vitamin B_6, magnesium, and zinc.

Many Title VI participants, particularly home-delivered ones, fail to attain the RDAs from the program meal. Anecdotal evidence from Title VI site managers and other program officials indicates that this pattern probably reflects the fact that many participants share program meals with others in the family. For example, many elderly female home-delivered participants care for grandchildren during the day and may share program food with them.

2. Macronutrient Content of Participants' Intakes from the Program Meal

The typical Title VI congregate and home-delivered meal program participants' intakes of total fat and saturated fat per program meal exceed maximum recommended standards. Intake of carbohydrate from the program meal is below the minimum recommended standard. The median typical intake of dietary

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[3]The vast majority of meal program participants receive just one program meal daily. For participants who received more than one program meal during the recall period, we standardized their intakes from program meals to a per-meal, per-day basis, so intakes could be meaningfully compared to the one-third RDA standard. For example, if a participant received two program meals daily, intakes from these two meals for each nutrient were summed and divided by two (the number of meals) to derive a measure of intakes on a per-meal basis.

TABLE III.1

PARTICIPANTS' DAILY NUTRIENT INTAKE PER PROGRAM MEAL
(As a Percentage of the RDAs)

	Title VI Congregate Participants Who Consumed Program Meal During Recall Period			Title VI Home-Delivered Participants Who Consumed Program Meal During Recall Period		
Nutrient	Mean	Median	Percentage Exceeding One-Third of the RDA	Mean	Median	Percentage Exceeding One-Third of the RDA
Food Energy (Calories)	32.1	30.8	36.5	25.1	25.0	18.6
Protein	53.7	52.8	81.0	46.3	39.6	66.4
Vitamin A	46.9	27.9	41.2	62.4	29.6	46.1
Vitamin C	55.8	35.9	54.2	59.6	35.7	50.3
Vitamin D	45.0	25.2	45.8	36.1	29.6	48.5
Vitamin E	34.8	32.4	48.2	25.1	22.7	24.1
Thiamin	52.1	47.0	72.2	49.1	42.5	63.8
Riboflavin	44.8	42.5	68.4	43.4	42.1	66.0
Niacin	55.4	50.8	79.6	43.7	38.7	56.6
Vitamin B_6	34.4	33.5	50.2	28.8	25.6	33.6
Folacin	45.0	37.8	58.2	38.9	30.3	41.1
Vitamin B_{12}	86.6	72.0	75.2	62.5	54.5	66.5
Calcium	31.7	24.1	39.0	33.1	29.0	48.7
Iron	45.5	41.1	65.6	35.6	33.9	51.5
Phosphorous	54.2	49.3	78.9	50.6	48.5	70.2
Potassium	55.2	53.0	83.0	47.5	44.1	69.3
Magnesium	32.0	30.3	42.8	27.8	27.8	27.0
Zinc	29.5	26.7	37.7	25.2	21.6	23.0
Unweighted Sample Size	**204**	**204**	**204**	**163**	**163**	**163**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTES: Excludes 58 participants who did not consume a program meal during the 24-hour recall period (for example, 8 congregate participants who attended the meal site and usually eat a program meal but did not that day because of medical tests or other reasons; 50 home-delivered meal program participants who did not receive a program meal, or received a program meal but chose not to eat it during the recall period, saving it for another time). Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day. Persons who received more than one program meal during the recall period had their intakes summed and divided by the number of program meals received, so their intake could be compared to the one-third RDA standard.

RDA = Recommended Dietary Allowance.

cholesterol from the program meal is within the maximum recommended standard. In each case, the average dietary intake of Title VI home-delivered participants conforms more closely to the standards than that of Title VI congregate participants.

For congregate participants, mean intake of carbohydrate as a percentage of total food energy (calories) from a program meal equals 49 percent. The comparable figure for home-delivered participants equals 51 percent (Table III.2). For both congregate and home-delivered participants, the mean percentage of food energy from carbohydrate is below the NRC's recommendation of 55 percent.

As a percentage of food energy (calories), Title VI congregate participants' intake of total fat from program meals averages nearly 37 percent, well above the 30 percent recommended level. In contrast, home-delivered meal participants consume 31 percent of total food energy as fat, only slightly above the recommendation. Congregate and home-delivered meal participants' intakes of saturated fat from program meals as a percentage of total food energy equal about 12.6 percent and 11.4 percent, respectively, exceeding the recommended level of 10 percent.

Title VI participants consume a large proportion of their food energy (calories) from the program meal as protein. The percentage of food energy from protein equals 18 percent for congregate participants and nearly 20 percent for home-delivered meal recipients.

Congregate participants' intake of dietary cholesterol per program meal is 88 mg; the figure for home-delivered meal recipients is 62 mg. Congregate participants' intake of sodium from program meals averages 1,189 mg; for home-delivered participants, the intake is 1,042 mg. As indicated, the program does not have recommendations for the intake of sodium or cholesterol from the program meal. If we apply one-third of the RDA to the NRC recommendation, however, participants' intake of cholesterol from the program meal is below the recommended level (100 mg). Yet, intake of sodium from the program meal is somewhat above the recommended level (800 mg).

TABLE III.2

PARTICIPANTS' DAILY INTAKE OF MACRONUTRIENTS, SODIUM, AND DIETARY CHOLESTEROL PER PROGRAM MEAL

Dietary Component	Title VI Congregate Participants Who Consumed Program Meal During Recall Period	Title VI Home-Delivered Participants Who Consumed Program Meal During Recall Period
Carbohydrate		
Mean Percentage of Food Energy (Calories)	48.8	51.5
Median Percentage of Food Energy (Calories)	47.8	51.6
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 45 percent	44	31
45 to 55 percent	27	32
56 to 65 percent	18	24
More than 65 percent	10	13
Total Fat		
Mean Percentage of Food Energy (Calories)	36.5	31.2
Median Percentage of Food Energy (Calories)	36.2	31.5
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 20 percent	11	17
20 to 30 percent	20	33
31 to 35 percent	15	13
36 to 40 percent	23	14
41 to 50 percent	20	21
More than 50 percent	10	2

TABLE III.2 *(continued)*

Dietary Component	Title VI Congregate Participants Who Consumed Program Meal During Recall Period	Title VI Home-Delivered Participants Who Consumed Program Meal During Recall Period
Saturated Fat		
Mean Percentage of Food Energy (Calories)	12.6	11.4
Median Percentage of Food Energy (Calories)	12.2	11.4
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	5	8
5 to 10 percent	34	36
11 to 15 percent	43	42
16 to 20 percent	13	11
More than 20 percent	6	4
Protein		
Mean Percentage of Food Energy (Calories)	18.1	19.8
Median Percentage of Food Energy (Calories)	17.7	18.3
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	*	*
5 to 15 percent	40	33
16 to 25 percent	49	46
More than 25 percent	11	21
Sodium		
Mean Intake (mg Per Day)	1,189	1,042
Median Intake (mg Per Day)	1,072	945

TABLE III.2 *(continued)*

Dietary Component	Title VI Congregate Participants Who Consumed Program Meal During Recall Period	Title VI Home-Delivered Participants Who Consumed Program Meal During Recall Period
Distribution of Intake		
Less than 800 mg per day	37	37
801 to 1,000 mg per day	10	19
Greater than 1,000 mg per day	53	44
Dietary Cholesterol		
Mean Intake (mg Per Day)	86	62
Median Intake (mg Per Day)	69	54
Distribution of Intake		
Less than 100 mg per day	72	79
101 to 133 mg per day	17	17
Greater than 133 mg per day	12	3
Unweighted Sample Size	**204**	**163**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTES: Excludes 58 participants who did not consume a program meal during the 24-hour recall period (for example, 8 congregate participants who attended the meal site and usually eat a program meal but did not that day because of medical tests or other reasons; 50 home-delivered meal program participants who did not receive a program meal, or received a program meal but chose not to eat it during the recall period, saving it for another time).

Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

The *Dietary Guidelines* recommend that intakes of (1) total fat should be 30 percent or less of food energy, and (2) saturated fat should be 10 percent or less of food energy. The National Research Council recommends that intakes of (1) cholesterol should be less than 300 mg per day, (2) sodium chloride should not exceed 2,400 mg per day, and (3) carbohydrates should be at least 55 percent of food energy.

* = Less than 0.5 percent.

3. Percentage of Total Daily Dietary Intake Provided by the Program Meal

For many Title VI participants, especially congregate ones, the program meal represents a substantial proportion of their daily intake. Average intakes from program meals for congregate participants range between 40 and 50 percent of their total daily intakes of the 18 nutrients examined, if we consider only those who consume a program meal (Table III.3). For example, the typical congregate participant gets 43 percent of his or her daily intake of food energy (calories) and 47 percent of protein intake from program meals. For Title VI home-delivered meal participants, the program meal supplies between 32 percent and 46 percent of daily intakes for the 18 nutrients studied.

These findings on mean percentage of daily intake from program meals suggest that program meals are an important part of daily nutrient intake for a large number of Title VI participants. This is confirmed by other evidence in the participant characteristics survey. For example, when asked how important the meal program is as a source of food, nearly half (45 percent) of congregate participants reported that the program is their major or only source of food.

4. Comparisons with Previous Studies

The findings on dietary intake from program meals and the contribution of program meals to participants' overall total daily intake summarized in the previous sections are consistent with those reported in earlier evaluations of the Title III meals program.

Using participants' dietary intake between 11 AM and 4 PM as a proxy for their intake from program meals, Kirschner et al. (1983) found similar percentages of participants consuming one-third of the RDAs for selected nutrients as the current evaluation did.[4] For example, the current evaluation found that 88 percent of congregate participants who consumed a program meal had intake per program meal that

[4]To be comparable to the Kirschner (1983) results, the results discussed here for participants in the current evaluation include only those participants who consumed a program meal during the recall period. See Volume I, Table II.4, of this report.

TABLE III.3

PERCENTAGES OF PARTICIPANTS' TOTAL DAILY INTAKE FROM ALL PROGRAM MEALS

	Title VI Congregate Meal Participants Who Consumed Program Meal		TitleVI Home-Delivered Meal Participants Who Consumed Program Meal	
Nutrient	Mean	Median	Mean	Median
Food Energy (Calories)	43.4	38.4	35.9	34.3
Protein	46.9	43.7	40.9	39.3
Vitamin A	48.5	50.6	46.4	44.3
Vitamin C	50.2	47.5	44.7	44.7
Vitamin D	47.2	44.4	37.5	36.5
Vitamin E	47.3	43.0	38.9	37.0
Thiamin	42.7	40.8	36.0	34.2
Riboflavin	42.2	38.0	36.2	31.7
Niacin	43.9	40.7	36.1	33.6
Vitamin B_6	46.1	41.2	38.6	37.8
Folacin	41.3	34.1	33.6	30.7
Vitamin B_{12}	48.2	44.0	40.3	30.9
Calcium	44.1	41.7	41.4	33.9
Iron	40.2	33.8	32.2	29.5
Phosphorous	45.4	40.9	40.3	35.2
Potassium	45.8	42.3	40.2	38.0
Magnesium	42.8	37.5	36.3	35.0
Zinc	44.1	40.5	39.8	35.0
Sodium	46.1	43.7	37.9	33.6
Dietary Cholesterol	43.2	38.3	36.9	25.4
Unweighted Sample Size	**204**	**204**	**162**	**162**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTES: Excludes 58 participants who did not consume a program meal during the 24-hour recall period (for example, 8 congregate participants who attended the meal site and usually eat a program meal but did not that day because of medical tests or other reasons; 50 home-delivered meal program participants who did not receive a program meal, or received a program meal but chose not to eat it during the recall period, saving it for another time). Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day.

TABLE III.4

PARTICIPANTS' TOTAL MONTHLY SOCIAL CONTACTS FROM PROGRAM SOURCES
(Percentages, Unless Stated Otherwise)

Social Contacts	Title VI Congregate Participants	Title VI Home-Delivered Participants
Total Number Per Month from All Sources		
Mean	91.7	86.7
Median	74.0	70.8
Proportion from Program Sources (Percent Distribution)		
1 to 10 percent	23	13
11 to 20 percent	26	23
21 to 30 percent	21	22
31 to 40 percent	11	16
41 to 50 percent	7	14
51 to 75 percent	8	5
More than 75 percent	5	8
Mean	26.8	32.5
Median	22.7	26.7
Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day. Social contacts include talking on the telephone; visiting friends, relatives, or neighbors; attending church or religious services; attending clubs; attending congregate meal sites; and having contact with program person who delivers home-delivered meal and with providers of personal care services, such as home health, homemaker chore, and adult day care. Program social contact sources refer to attending congregate meal sites for meals or recreation, and having contact with the home-delivered meal delivery person.

provided at least one-third of the RDA for protein, compared with 87 percent of congregate participants surveyed by Kirschner et al. in 1981. The current evaluation found that 81 percent of home-delivered participants received one-third or more of the RDA for protein from a program meal, compared with 82 percent of home-delivered participants in the Kirschner et al. study.

Similar to the current evaluation, three previous studies found that Title III program meals contributed substantially to participants' total daily dietary intake (Caliendo 1980; Harrill et al. 1981; and Kohrs et al. 1978). Similar to the current evaluation findings, all three studies indicated that congregate and home-delivered meal program participants consumed an average of 40 percent or more of their total daily nutrient intake during the program meal.[5]

B. SOCIAL CONTACTS AND ACTIVITIES FROM MEAL PROGRAM SOURCES

In addition to providing nutritious meals, another goal of Title VI of the ENP is to reduce the social isolation of elderly people. The Title VI congregate meal program affords opportunities for social interaction and companionship, through provision of group dining and recreation and other activities. For home-delivered participants, the interaction between meal deliverers and participants also provides an opportunity for an important social contact.

Under a broad definition of "social contacts," Title VI congregate participants average 92 such contacts per month.[6] The figure for home-delivered participants averages about 87 contacts monthly. Program sources represent, on average, approximately 27 percent of Title VI congregate participants' and

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[5]The studies cited involved single areas or local sites. In addition, the tabulations in each of these studies were based only on samples of participants that ate a program meal during the 24-hour period, whereas the tabulations reported for the current evaluation also include participants who received a program meal but did not consume it during the 24-hour period.

[6]Social contacts include talking on the telephone; visiting or being visited by relatives, friends, or neighbors; attending religious services; attending clubs or other organizations; attending congregate meal sites for meals and/or recreation services; receiving home-delivered meals from the meal program; and receiving other home or community-based long-term care services, such as personal care, homemaker, and home health services, and attending adult day care programs.

33 percent of home-delivered participants' total social contacts per month (Table III.4). Program sources account for more than 50 percent of total monthly activities and social contacts for 13 percent of both congregate and home-delivered participants.[7]

For home-delivered participants, social contacts from program sources are exclusively contacts they have with program staff when the meal is delivered to them. These contacts tend to be limited: 63 percent of home-delivered meal program participants reported that the delivery person leaves immediately, whereas 37 percent reported that the delivery person spends some time to talk with or check on them (not shown). Regardless of the length of the contact, home-delivered meal program participants value it highly. For example, when asked to mention the things they like about the meal program, 53 percent of home-delivered participants reported that they like the contact with the delivery person, and 95 percent reported that the meal delivery person is usually pleasant.

Congregate participants avail themselves of the opportunities for social interaction at the meal sites. Ninety-three percent spend some time at the meal site after they finish their meal. Sixty-two percent reported that they typically spend more than one hour at the meal site when they attend. One-third reported participating at least once a month in recreation activities sponsored by the meal program; 20 percent participate at least once per week (not shown).

[7]Program sources of social contacts refer to attending congregate meal sites for meals or recreation, and having contact with staff or volunteers who deliver the home-delivered meal.

IV. TITLE VI PROGRAM ADMINISTRATION AND SERVICE DELIVERY

Title VI of the Elderly Nutrition Program (ENP) was established to meet the unique needs and circumstances of American Indian elders on or near reservations, historical Indian lands in Oklahoma, and Alaskan Native villages, as well as older Native Hawaiians. The Administration on Aging (AoA) awards Title VI funds directly to tribal organizations from federally recognized tribes and public or nonprofit private organizations to provide American Indian elders and older Native Hawaiians with nutrition and supportive services that are similar to services provided under Title III. Although Title VI programs are conceptually similar to Title III programs in many ways, differences in program administrative structures exist.

This chapter describes Title VI of the ENP and its operations, on the basis of information obtained from telephone and in-person interviews with staff of the organizations that operate the programs. We begin this chapter by describing, in Section A, the characteristics of agencies that administer the Title VI program. The nutrition and supportive services provided to Title VI meal program participants are discussed in Section B. Section C documents the nutritional expertise of program staff at each organizational level. Sections D examines interrelationships among different layers of Title VI ENP organizations. Interactions between ENP and non-ENP agencies, such as other providers of home- and community-based long-term care and the U.S. Department of Agriculture (USDA), are examined in Section E. The quality of program services, including food safety and sanitation, is discussed in Section F. Section G describes the program's funding structure, examining different sources of funding and their relative importance. Section H analyzes meal costs--overall and by nutrition project characteristics--and the implications of our findings on cost-effectiveness and efficiency. Section I describes the waiting lists for program services.

A. CHARACTERISTICS OF TITLE VI ORGANIZATIONS

Title VI of the ENP is administered at a number of different levels, including the Indian Tribal Organization (ITO), the nutrition project (sometimes called the nutrition provider), and individual congregate meal and/or meal delivery site levels. In most instances, however, these levels are integrated. An ITO usually has one nutrition project under its jurisdiction (often co-located with the ITO), and this nutrition project will administer one meal site. Despite the frequent overlap in these levels, we present information on the characteristics of different levels separately to highlight the conceptual differences between the levels, while also indicating the extent of the overlap.

1. ITOs

AoA provides Title VI grants directly to tribal organizations that represent at least 50 individuals who are 60 years of age or older and that demonstrate the capacity to deliver nutrition and supportive services.[1] Although Title VI programs can be organized and administered in different ways, most programs (78 percent) are administered by an *individual* tribal organization (Table IV.1). Consortia of tribes are critical to enabling small tribes to participate in the program, however, and about 15 percent of Title VI programs are administered by a consortium. About seven percent are administered by some other type of administrative body.

ITOs are required to determine a service area with established geographic boundaries on or near reservations or "historically Indian lands."[2] Geographic boundaries for the ITO service areas most often correspond to the boundaries of an entire reservation (53 percent), but they occasionally correspond to parts of a reservation (12 percent). About six percent of ITOs have service areas that include more than one

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[1]Only one Title VI-B (Grants for Supportive and Nutritional Services to Older Hawaiian Natives Program) grantee, a nonprofit private organization, exists. It is included in the analysis of ITOs in this section, and in all other sections of this chapter.

[2]Some Indian tribes, such as those in Oklahoma, do not have reservations, and instead use the term "historically Indian lands" to refer to the geographic areas they occupy.

TABLE IV.1

ITO ORGANIZATION CHARACTERISTICS
(Percentages, Unless Stated Otherwise)

Characteristic	ITOs
Organization	
Individual tribal organization	78
Consortium or combination of tribes	15
Other	7
Present Boundaries of Service Area	
Entire reservation	53
Parts of reservation	12
On or near the reservation	1
More than one reservation	6
Other area	28
Furthest Point in Service Area in Miles	
0 to 50	75
51 to 100	13
101 to 150	5
More than 150	6
Mean	56.7
Median	30.0
Number of Nutrition Projects in Service Area	
1	94
2 to 3	3
4 or more	3
Mean	1.2
Median	1.0
Is Also Nutrition Project	95
Run the Only Nutrition Project in Jurisdiction	90
Unweighted Sample Size	**110**

SOURCE: Elderly Nutrition Program Evaluation, ITO survey, weighted tabulations.

* = Less than 0.5 percent.

reservation. An ITO's boundaries can also correspond to other geographic areas (28 percent). These other areas include county or state lines, particular distances from towns, and colonies and villages. Some of the ITOs that reported "other areas" in response to the question about the boundaries of their service areas are tribes in Oklahoma, which do not have reservations. These ITOs serve either all or part of the geographic area inhabited by the tribe. The mean distance to the furthest point in the service areas is 57 miles, with a median of 30 miles. For three-quarters of all ITOs, the furthest point in their jurisdiction is fewer than 50 miles away.

Most ITOs (94 percent) have just one nutrition project or service provider operating in the geographic area covered by their Title VI grant; 6 percent of ITOs administer two or more nutrition projects (Table IV.1). In most cases, the ITO and the nutrition project are the same organization (95 percent). For 90 percent of ITOs, the ITO operates the only nutrition project in the service area.

2. Nutrition Projects

Nutrition projects provide or arrange for the provision of nutrition and supportive services in the service area covered by the Title VI grant. In most cases, the nutrition project and the ITO are the same organization. These service providers are largely organizations with extensive experience in operating the program. More than half (61 percent) have been involved with the program for more than 10 years, and 32 percent have been providing Title VI services for between 6 and 10 years (Table IV.2).

The typical Title VI nutrition project operates only one congregate site. Almost three-quarters of Title VI nutrition projects have only one meal site, and one-fifth operate between two and five sites. Fewer than five percent run no congregate sites--operating home-delivered meal programs only, or just providing supportive services other than meals. The average number of congregate meals served daily by nutrition projects is 36; similarly, about 36 home-delivered meals are typically provided daily. There is considerable variation in the size of projects: about 15 percent provide an average of 10 or fewer congregate or home-

TABLE IV.2

NUTRITION PROJECT ORGANIZATION AND SERVICE CHARACTERISTICS
(Percentages, Unless Stated Otherwise)

Characteristic	Title VI Nutrition Projects
Number of Years in Program	
1 to 2	1
3 to 5	7
6 to 10	32
More than 10	61
Number of Congregate Meal Sites	
0	4
1	74
2 to 5	20
6 or more	2
Mean	1.5
Median	1.0
Average Daily ENP Congregate Meals Served During Weekdays	
10 or fewer	15
11 to 20	32
21 to 40	25
41 to 100	21
More than 100	7
Mean	36.6
Median	27.2
Average Daily ENP Home-Delivered Meals Served During Weekdays	
10 or fewer	14
11 to 20	29
21 to 40	35
41 to 100	19
More than 100	4
Mean	35.0
Median	30.0
Percentage of Meals Served Eligible for ENP Funding	
100	93
90 to 99	6
Less than 90	1
Mean	97.2
Median	100.0

TABLE IV.2 *(continued)*

Characteristic	Title VI Nutrition Projects
Percentage of Budget Used for:	
Meals eligible for ENP funding	60
Nutrition-related or supportive services eligible for ENP funds	22
Non-ENP activities	18
Unweighted Sample Size	**71**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

delivered meals daily, whereas from 4 to 7 percent provide more than 100 congregate or home-delivered meals daily.

The bulk of nutrition projects' budgets goes toward providing meals eligible for ENP funding. At 93 percent of nutrition projects, all meals are eligible for ENP funding (Table IV.2).

3. Congregate Meal Sites

Meals and other nutrition and supportive services are provided at congregate sites. The congregate meal sites are located in a variety of different types of buildings. The most common type of building is a community center (including senior centers), accounting for almost 60 percent of Title VI meal sites (Table IV.3). Converted residences are sometimes used as congregate sites (14 percent). Other types of structures, not specifically asked about in the survey but mentioned nonetheless by 18 percent of respondents, include a building designed to serve ENP meals, a converted dance hall, and a maintenance building. About half the sites are in very rural areas with few buildings nearby. Most other sites are either in all-residential neighborhoods (27 percent) or neighborhoods with a mixture of residences and businesses (23 percent). Interviewers described about half the sites as clean and well maintained (46 percent); another 42 percent were described as functional but unattractive or in need of paint. Eight percent need major repairs.

Almost 90 percent of congregate sites are at street level. For those in which stairs must be used to reach the meal site (21 percent), two-thirds have three or more stairs.[3] At sites with steps, handrails are available at a little over half. Ramps are also available at a little more than half of the sites as alternate access methods to the meals.

Sites vary greatly by size. About one-fifth have seating capacity for 20 or fewer individuals; one-fifth can provide seating for a maximum of between 21 and 30 participants. About six percent of the sites,

[3]Note that stairs may be necessary even when a site is at street level.

TABLE IV.3

MEAL SITE ORGANIZATIONAL AND SERVICE CHARACTERISTICS
(Percentages, Unless State Otherwise)

Characteristics	Title VI Congregate Meal Sites
Type of Building in Which Site Is Located	
School	5
Office building	4
Converted residence	14
Community center (including senior center)	58
Other (specify)	18
Surrounding Neighborhood	
All residential	27
Mix of residential and business	23
Rural, not many buildings nearby	47
Other	3
Condition of Building	
Well maintained, clean	46
Structurally sound, functional, but unattractive, dirty, or in need of paint	42
Needs minor repairs (for example, broken windows, sagging screen doors)	4
Needs major repairs for safety and minimum comfort	8
Types of Public Transportation Available	
Bus	8
Dial-a-ride or taxi services	11
None	83
Floor Level of Site	
Street level	88
Other	12
Stairs Must Be Used to Get to Meal Site	21
If Stairs Needed to Get to Site, Number	
1	32
2	*
3 to 5	44
More than 5	24

TABLE IV.3 *(continued)*

Characteristics	Title VI Congregate Meal Sites
If Stairs, Handrails Available?	
Yes	57
No	43
If Stairs, Alternatives Available?	
Ramps	57
Elevator	*
Escalator	*
Maximum Meal Seating Capacity	
≤20	22
21 to 30	21
31 to 40	5
41 to 50	20
51 to 75	16
76 to 100	9
101 to 200	5
More than 200	1
Mean	51
Median	41
Typical Attendance	
≤20	54
21 to 30	24
31 to 40	9
41 to 50	6
51 to 75	5
More than 75	1
Mean	23
Median	19
Weeks of Operation	
52	90
50 to 51	10
Home-Delivered Meals Provided?	
Yes	81
No	19

TABLE IV.3 *(continued)*

Characteristics	Title VI Congregate Meal Sites
Number of Paid Full-Time Staff	
0	13
1	40
2 to 5	47
Mean	1.9
Median	1.0
Number of Paid Full-Time-Equivalent Staff	
0	0
1	21
2 to 5	75
More than 5	4
Mean	2.7
Median	3.0
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

* = Less than 0.5 percent.

however, can accommodate more than 100 participants. Median typical attendance is small, at 20 or fewer people; one-quarter of sites have attendance of between 21 and 30 individuals.

Eighty-seven percent of Title VI congregate sites have at least one paid full-time staff member. Of those with paid full-time staff, all have between one and five. When part-time staff are included, three-quarters of sites have between two and five paid full-time-equivalent (FTE) workers.

Most sites (84 percent) also use volunteers (Table IV.4). About half of the Title VI sites reported using between two and five volunteers. The vast majority of these volunteers work only part-time: 71 percent of sites have less than one FTE volunteer. The sites use volunteers for a wide array of tasks. Volunteers most commonly set up tables, serve food, and clean up. Many volunteers also deliver meals and purchase or receive food products or supplies for the meal sites.

B. NUTRITION AND SUPPORTIVE SERVICES

Nutrition projects have primary responsibility for providing services under the ENP, and many of these services are actually provided at individual congregate sites. As noted earlier, however, there is a great deal of overlap between nutrition projects and ITOs. ITOs often run only one nutrition project, which is co-located with the ITO. ITOs also contribute extensively to the provision of direct services to the elderly population. Our examination of the types of nutrition and supportive services offered under the program draws on information from these levels of the program hierarchy. Subsection B.1 provides an overview of the types of services offered. Subsection B.2 examines congregate and home-delivered meal services in more detail, while subsection B.3 discusses other services.

1. Overview of Nutrition and Supportive Services Provided

ITOs. ITOs serve a variety of planning and service delivery functions, some of which extend beyond Title VI programs. The survey results in Table IV.5, however, show that providing congregate and home-delivered meals is a key part of ITOs' mission, as is providing information and referral services. Almost

TABLE IV.4

USE OF VOLUNTEER LABOR AT TITLE VI MEAL SITES
(Percentages)

Characteristic	Title VI Congregate Meal Sites
Sites Using Volunteer Labor	84
If Volunteers Used, Number	
1	18
2 to 5	66
More than 5	16
If Volunteers Used, Number of Full-Time-Equivalents (FTEs)	
0.01 to .49	55
0.5 to 0.99	16
1 to 1.49	4
1.5 to 1.99	4
2 to 5	13
> 5	9
Mean	1.3
Median	0.3
Tasks Assigned to Volunteers	
Host at meal site	16
Cashier	7
Prepare food	35
Serve food	55
Clean up	66
Set tables	62
Transport clients	18
Receive and/or store food products or supplies	35
Prepare and maintain data records (for example, on food production, meals served, or client characteristics)	6
Deliver home-delivered meals	28
Administrative tasks	4
Menu planning	7
Food purchasing	8
Other	16
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

TABLE IV.5

SERVICES OFFERED BY ITOs
(Percentages)

Type of Service	ITOs
Services Offered	
Information and referrals	97
Congregate meal services	95
Home-delivered meal services	93
Transportation to and from meal sites	89
Outreach	85
Recreation and social activities	84
Nutrition education	72
Other transportation assistance	67
Nutrition counseling	56
Homemaker services	43
Case management	39
Home health	33
Personal care	33
Legal assistance	33
Adult day care/adult day health	3
Other services	27
Main Services Offered[a]	
Congregate meal services	89
Home-delivered meal services	80
Transportation to and from meal sites	68
Information and referrals	27
Homemaker services	14
Case management	11
Nutrition education	9
Recreation facilities and activities	9
Nutrition counseling	8
Outreach	6
Other transportation assistance	6
Personal care	5
Legal assistance	5
Home health	2
Adult day care/adult day health	*
Other services	30
Unweighted Sample Size	**110**

SOURCE: Elderly Nutrition Program Evaluation, ITO survey, weighted tabulations.

[a]For ITOs offering service, service is one of the top three ITO provides in terms of funding level.

* = Less than 0.5 percent.

all ITOs included providing congregate (95 percent) or home-delivered meals (93 percent) in the services they help provide either directly or indirectly. Virtually all ITOs (97 percent) make information and referral services available to Title VI participants, to link with them with other health and related services. Other services commonly mentioned as available to ENP participants through ITOs include transportation to and from meal sites (89 percent), recreation (84 percent), and outreach (85 percent). Nutrition education was also offered by about three-quarters of ITOs.

ITOs were asked to list the three main services offered, on the basis of funding. Eighty-nine and 80 percent included congregate and home-delivered meals, respectively, in this list. Transportation to meal sites was frequently the third most important service category and appeared in the list of "top threes" for about two-thirds of ITOs. No other service came close to being mentioned as often as these three. Information and referral was the next most commonly mentioned service (27 percent). Other services, such as case management and homemaker assistance, were mentioned much less often, by 15 percent or fewer of respondents.

Past research has suggested that the importance of the ENP to many agencies extends beyond the direct funding received, providing an overall framework allowing agencies to plan and provide a broader range of services. To examine this issue, we asked ITO respondents a series of questions about the role of Title VI in their operations and how Title VI affected their capacity to facilitate other supportive services for elderly people. Many responded positively to a question about whether Title VI was important for them in "ways the go beyond direct meal service" (Table IV.6). Of these respondents, substantial majorities responded positively to questions about the importance of Title VI in providing funding stability to cover personnel costs, involve volunteers, raise funds, and improve community relations. These respondents also felt that the Title VI program facilitates a more comprehensive, communitywide approach through beneficial "spillover" effects that extend beyond the direct effects of the supportive services authorized under Title VI.

TABLE IV.6

BROADER IMPLICATIONS OF ENP FOR ITOs
(Percentages)

	ITOs
Title VI Is Important in "Ways That Go Beyond Direct Meal Service"	51
Ways Title VI Is Useful	
Improving community relations	42
Providing stability in funding to cover personnel costs	34
Involving volunteers	33
Raising funds	27
Providing resources for administrative expenses	25
Creating bargaining power with other community agencies	21
Other	6
Unweighted Sample Size	**110**

SOURCE: Elderly Nutrition Program Evaluation, ITO survey, weighted tabulations.

Nutrition Projects. Respondents to the nutrition project survey were asked to indicate what services they provided that were supported by Title VI funding. As expected, the most important Title VI services, in terms of frequency of availability, are congregate and home-delivered meals. Ninety-six percent of projects offer congregate meals, and 90 percent offer home-delivered ones (Table IV.7).

The next most common service was information and referral, mentioned by 89 percent of nutrition projects. Transportation, both to and from meal sites (83 percent) and for other purposes (77 percent), and recreational and social activities (75 percent) were also mentioned quite frequently.

Nutrition education was the most commonly available nonmeal nutrition service, mentioned 70 percent of the time. Nutrition screening, assessment, and counseling were available at approximately one-third of projects. Other non-nutrition services, such as personal care and homemaker services, were available very infrequently.

Service enhancements by Title VI nutrition projects are documented in Table IV.8. These enhancements may include offering different types of meals, such as meals modified for dietary reasons, establishing food pantry programs or nutritional supplement programs, allowing supper options, using consortiums for volume food purchasing, and accepting food stamps. Modified and other special meals are offered at 85 percent of projects, and other special meals (such as holiday meals) are offered at 75 percent of Title VI projects. Once-a-week delivery of frozen or ready-to-eat prepared meals was reported by 27 percent of projects, as were food pantry programs. Projects demonstrate flexibility by using one or more of these enhancements. More than half have three or more of these enhancements in place. The median number of service enhancements is three, and 14 percent of projects have between six and eight in place.

Congregate Meal Sites. All congregate meal sites offer congregate meals (Table IV.9). Eighty-two percent also operate a home-delivered meals program from their location. Eighty-five percent of congregate sites provide information and referral services, and nearly 80 percent provide nutrition

TABLE IV.7

SERVICE AVAILABILITY AT TITLE VI NUTRITION PROJECTS
(Percentages)

Service Offered	Services to Congregate Meal Participants[a]	Services to Home-Delivered Meal Participants[b]	All Projects
Congregate Meals	100	95	96
Home-Delivered Meals	90	100	90
Transportation to and from Meal Sites	83	--	83[e]
Other Transportation[c]	77	81	78
Nutrition Education	70	67	70
Nutrition Screening	29	30	29
Nutrition Assessment	22	21	23
Nutrition Counseling	32	32	32
Recreation and Social Activities	75	--	75[d]
Information and Referral	89	86	89
Non-Nutritional Counseling[e]	49	52	49
Personal Care Service	7	7	7
Homemaker Service	7	7	7
Home Health Aid Service	4	4	4
Adult Day Care/Adult Day Health Service	1	1	1
Case Management	4	4	4
Legal Assistance	3	3	3
Outreach	5	5	5
Unweighted Sample Size	**66**	**65**	**70**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

[a]Projects providing congregate services.

[b]Projects providing home-delivered services.

[c]Includes all assisted and nonassisted transportation services other than transportation between participants' homes and meal sites.

[d]Calculated only for those projects with congregate programs, since only projects with congregate programs were asked the question.

[e]Non-nutritional counseling may cover personal or mental health, financial, legal, housing, health, or other issues.

* = Less than 0.5 percent.

TABLE IV.8

SERVICE ENHANCEMENTS IN THE TITLE VI ELDERLY NUTRITION PROGRAM
(Percentages)

Program Features	Title VI Nutrition Projects
Service Enhancements	
Modified or therapeutic meals or variations from regular menu (low fat, low cholesterol, low salt)	85
Other special meals (for example, holiday)	75
Food pantry program (grocery distribution to very needy)	27
Once-a-week delivery of frozen or ready-to-eat prepared meals	27
Food stamps accepted in lieu of cash	24
Nutritional supplement program (Ensure, Sustacal, Mix-a-Meal, Nutritreat)	14
Consortium for food service contracting or volume food purchasing	14
Vegetarian meals	11
Meals for homeless elderly (for example, soup kitchen)	10
Supper option for home-delivered meals	7
Regular nursing home visits to nutrition sites	7
Contracts with diners or restaurants to provide meals	6
Supper option for congregate meals	5
Weekend home-delivered meals	5
Weekend congregate meals	1
Luncheon clubs (small groups meeting weekly in a home or apartment building)	1
Distribution of Service Enhancements	
1 to 2	38
3 to 5	48
6 to 8	14
Mean	3.2
Median	3.0
Unweighted Sample Size	**70**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

TABLE IV.9

SERVICE AVAILABILITY AT CONGREGATE MEAL SITES
(Percentages)

Service Offered	Title VI Congregate Meal Sites
Congregate Meals	100
Home-Delivered Meals	82
Transportation to and from Meal Sites	74
Other Transportation[a]	71
Nutrition Education	79
Nutrition Screening	28
Nutrition Assessment	11
Nutrition Counseling	34
Recreation and Social Activities	70
Information and Referral	85
Non-Nutritional Counseling[b]	56
Personal Care Service	8
Homemaker Service	12
Home Health Aid Service	4
Adult Day Care/Adult Day Health Service	1
Case Management	9
Legal Assistance	4
Outreach	9
Other Services	5
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Includes assisted transportation and other transportation.

[b]Non-nutritional counseling may cover personal or mental health, financial, legal, housing, health, or other issues.

education services. Nearly three-quarters of the congregate sites provide transportation between the site and participants' homes. Fewer than one-third of meal sites are providing nutrition screening or assessment services. No more than 15 percent of the sites are providing intensive home- or community-based long-term care services, such as case management, personal care, and homemaker services.

2. Service Characteristics of Congregate Meal Sites

a. Congregate Meals

Meal Service Schedule. All congregate meal sites serve lunch (Table IV.10). A very small percentage serve at least one breakfast per week (six percent), indicating that a few sites offer both breakfast and lunch. Fewer than one percent serve dinner. Most operate weekdays and are open five days during the week. Fewer than one percent operate on weekends.

Meal Preparation Methods. The vast majority of congregate sites (96 percent) serve meals prepared by the nutrition service provider staff at the congregate meal site (Table IV.10). Four percent of the congregate sites serve program meals prepared by an outside vendor or contractor. When meals are prepared off site--either by a project central kitchen or an outside contractor--they typically are delivered to the meal site at serving temperature. Ninety five percent of congregate sites that receive meals from external sources (or about four percent of congregate sites overall) receive meals in bulk containers at serving temperature; the food is then portioned and served. Extremely small percentages of sites that receive meals prepared by external sources have them delivered in bulk, cold; in bulk, frozen; or preplated, hot.

Special Diets. Two-thirds of Title VI congregate meal sites currently serve modified or therapeutic meals to participants with special health-related needs (Table IV.10). These meals include low salt, low fat, low sugar, controlled calorie, and so forth. Eighty-three percent of sites consider religious and ethnic

TABLE IV.10

CHARACTERISTICS OF CONGREGATE MEAL SERVICES
(Percentages, Unless Stated Otherwise)

	Title VI Congregate Meal Sites
Meals Served	
Breakfast	6
Lunch	100
Dinner	*
Number of Days Per Week Meals Served	
One	*
Two	*
Three	11
Four	5
Five	84
Six	*
Seven	*
Mean	4.9
Median	5.0
Serve Meals on Weekends	*
Provide Holiday Meals	2
Serve Modified Meals[a]	67
Most Frequently Used Meal Preparation Method	
Nutrition project staff in central kitchen	*
Nutrition project staff at congregate site	96
Vendor or caterer	4
If Delivered, How Meals Delivered to Meal Site[b]	
Hot	95
In bulk, cold	15
In bulk, frozen	15
Preplated, hot	11
Preplated, cold	*
Preplated, frozen	1

TABLE IV.10 *(continued)*

	Title VI Congregate Meal Sites
Most Frequently Used Type of Meal Service	
Buffet style (participants serve themselves at central serving areas and carry plates to dining tables)	19
Cafeteria style (participants' plates filled by workers at central serving area; participants carry plates or trays to dining tables)	52
Family style (participants serve themselves from serving dishes on dining table)	*
Restaurant style (participants seated at dining tables; preportioned servings brought to them)	29
Seconds Are Available	
Always	44
Sometimes	49
Never	7
Seconds Are Available	
All menu items	38
Just some menu items	55
No seconds available	7
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Information on modified meals pertains to survey questions about modified meals (low-salt, low-sugar, low-fat, or controlled-calorie meals) and therapeutic meals (meals for people with conditions such as obesity, heart disease, diabetes, or hypertension). If respondents indicated providing either modified or therapeutic meals, the site is considered to provide modified meals.

[b]Calculated for only those sites receiving meals from external sources (for example, affiliated central kitchens, caterers, or vendors).

* = Less than 0.5 percent.

customs in their meal services, providing meals to participants that take into account participants' special ethnic, religious, or cultural preferences (not shown).

Meal Service Arrangements. Several alternative serving methods are available to meal sites. The most prevalent means congregate sites use to serve participants meals, however, are cafeteria-style and restaurant-style service. Fifty-two percent of congregate sites use cafeteria-style meal service arrangements, in which participants' plates are filled by staff in a central serving area, and participants carry their plates to tables. Restaurant-style service, in which participants are seated at tables and preportioned plates are brought to them, is in use at 29 percent of congregate meal sites. Most sites (82 percent) post menus describing the content of upcoming meals at the meal site (not shown). Sixty percent of sites reported that the menus correspond to what is actually served most of the time; 36 percent reported that menus correspond all of the time.

b. Nutrition-Related Services

Nutrition Education. Most congregate sites (79 percent) provide nutrition education to participants (Table IV.11).[4] At half of these sites, nutrition education is available between 7 and 12 times per year. At one-quarter of Title VI sites, nutrition education is available at least once per month. Most sites use more than one method to supply this service, with lectures, printed materials, and group discussions the most common approaches. Overall, 45 percent of Title VI congregate sites are providing nutrition education by a registered dietitian (RD). Nearly one-third of congregate sites use a public health nurse to provide nutrition education.

Nutrition Screening. Nutrition screening services, defined as identification of those at high risk for nutritional problems through use of a standard form or interview, are offered by 28 percent of Title VI congregate meal sites (Table IV.12). Sites use staff with different types of credentials to perform nutrition

[4]Nutrition education is defined as teaching participants about nutrition, diet, food purchasing, food preparation, and related subjects.

TABLE IV.11

NUTRITION EDUCATION OFFERED BY CONGREGATE SITES
(Percentages)

	Title VI Congregate Meal Sites
Offer Nutrition Education	79
Times Per Year Offered	
Never	21
1 to 6	14
7 to 12	42
More than 12	23
Methods Used[a]	
Lectures	57
Printed materials	66
Visual displays	55
Personal discussions	51
Group discussions	56
Workshops	24
Cooking classes/sessions	12
Trips to stores/markets	30
Use of USDA commodities	43
Other	2
Credentials or Training of Staff Providing Nutrition Education[a]	
Registered dietitian	45
Certified dietary manager	11
Graduate of four-year nutrition program, not registered, certified, or licensed	5
Home economist	4
Dietetic technician	3
Public health nurse	30
Other	27
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Percentages total more than percentage offering nutrition education because sites can use more than one method or person to provide nutrition education.

TABLE IV.12

NUTRITION SCREENING OFFERED BY CONGREGATE MEAL SITES
(Percentages)

	Title VI Congregate Meal Sites
Offer Nutrition Screening	28
Times Per Year Offered	
Never	72
1	14
2 to 6	*
7 to 12	6
More than 12	4
By special appointment	4
Credentials or Training of Staff Performing Nutrition Screening[a]	
Registered dietitian	16
Certified dietary manager	2
Graduate of four-year nutrition program, not registered, certified, or licensed	3
Home economist	*
Dietetic technician	1
Public health nurse	16
Other	6
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Percentages total more than the percentage offering nutrition screening because sites can use more than one person to provide nutrition screening.

* = Less than 0.5 percent.

screening, but RDs and public health nurses usually provide the services. Overall, 16 percent of Title VI congregate sites provide nutrition screening services using an RD, and 16 percent use a public health nurse.

Nutrition Assessment. Nutrition assessment, defined as one-on-one evaluation of a participant's nutritional status using physical measurements, 24-hour dietary recalls, medical history, or lab tests, is much less common, with only 11 percent of Title VI congregate sites offering it (Table IV.13). This service is most frequently offered once per year, although other frequencies, as well as use of special appointments, is often reported. Public health nurses and RDs usually provide the service.

Nutrition Counseling. Table IV.14 shows that one-third of Title VI congregate sites offer nutritional counseling. This type of counseling is defined as one-on-one dietary guidance on adequate intake of vitamins, minerals, proteins, and energy, and/or counseling on how to control chronic diseases, such as diabetes mellitus or obesity, that have dietary implications. Most of the sites providing this service offer it more than six times a year, and RDs are most often the individuals who provide it.

c. Non-Nutrition Services

Many non-nutrition supportive services are available to Title VI participants. This section describes these services.

Transportation Assistance. Seventy-four percent of sites offer transportation to and from the congregate meal site (Table IV.15). Overall, 48 percent of all Title VI sites offer transportation to and from sites four or more times per week. Transportation is most often provided by paid site staff, but volunteers, other agencies, and other paid personnel are also used frequently. Many sites reported more than one provider for the service.

Transportation to other locations is also offered frequently (71 percent of sites), helping ENP participants maintain many of their other daily activities, such as shopping for groceries, obtaining health

TABLE IV.13

NUTRITION ASSESSMENT OFFERED BY CONGREGATE SITES
(Percentages)

	Title VI Congregate Meal Sites
Offer Nutrition Assessment	11
Times Per Year	
Never	89
1	4
2 to 6	2
7 to 12	1
More than 12	*
By special appointment	4
Credentials or Training of Staff Performing Nutrition Assessment[a]	
Registered dietitian	2
Certified dietary manager	*
Graduate of four-year nutrition program, not registered, certified, or licensed	2
Home economist	*
Dietetic technician	2
Public health nurse	3
Other	4
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Percentages total more than the percentage offering nutrition assessment because sites can use more than one person to provide nutrition assessment.

* = Less than 0.5 percent.

TABLE IV.14

NUTRITIONAL COUNSELING OFFERED BY ENP SITES
(Percentages)

	Title VI Congregate Meal Sites
Offer Nutritional Counseling	34
Times Per Year Offered	
Never	66
1	*
2 to 6	*
7 to 12	10
More than 12	12
By special appointment	13
Staff Credentials or Training of Staff Providing Nutritional Counseling[a]	
Registered dietitian	16
Certified dietary manager	2
Graduate of four-year nutrition program, not registered, certified, or licensed	5
Home economist	*
Dietetic technician	*
Public health nurse	5
Other	10
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Percentages total more than the percentage offering nutritional counseling because sites can use more than one person to provide nutritional counseling.

* = Less than 0.5 percent.

TABLE IV.15

AVAILABILITY OF OTHER SUPPORTIVE SERVICES AT CONGREGATE SITES
(Percentages)

Service	Title VI Congregate Meal Sites
Transportation to and from Meal Site	
Sites Where Available	74
Times Available Per Month	
Never	26
Less than 6	2
6 to 20	23
More than 20	48
Transportation Service Provider[a]	
Paid staff	70
Volunteers	8
Other paid personnel	18
Other donated staff	*
Other agency	8
Other Transportation[b]	
Sites Where Available	71
Times Available Per Month	
Never	29
Less than 6	9
6 to 20	31
More than 20	30
Occasions for Which Service Available[a]	
Personal health care	58
Grocery shopping	70
Banking	67
Pay bills	70
Pick up medicines	69
Attend advisory council meetings	55
Attend religious ceremonies	21
Other	34

TABLE IV.15 *(continued)*

Service	Title VI Congregate Meal Sites
Information and Referral Services	
Sites Where Available	85
Methods Used to Provide Information[a]	
Participant request	66
Staff announcements at meals or other gatherings	62
Written materials, such as flyers or newsletters	65
Speakers from outside the meal program	48
Other	5
Types of Services/Benefits for Which Information Available[a]	
Food stamps	65
USDA commodities	75
Social Security	81
Health care financing	65
Housing	79
Legal services, consumer protection	64
Public assistance or welfare	70
Health care	83
Personal care or homemaker services	65
Visiting or other nursing staff	70
Case management	44
Other	4
Staff Referral Activities[a]	
Make appointment for participant or notify other agency to expect him/her	83
Usually	66
Sometimes	17
Accompany participant to other agency	63
Usually	26
Sometimes	37
Provide or arrange transportation to other agency	75
Usually	43
Sometimes	32
Follow up on referral to see that participant was served by other agency	78
Usually	54
Sometimes	24
Non-Nutritional Counseling	
Sites Where Available	56

TABLE IV.15 *(continued)*

Service	Title VI Congregate Meal Sites
Times Available Per Month	
Never	44
Less than 1	5
1	6
2 to 5	7
6 to 10	*
11 to 20	27
More than 20	11
Types of Counseling Available[a]	
Personal or mental health	50
Financial	35
Legal	34
Housing	34
Health	48
Other	10
Health and Medical Services	
Sites Where Available	54
Services Offered[a]	
Podiatry screening	38
Physical therapy	23
Speech therapy	6
Dental services	31
Blood tests	29
Urine tests	14
Other	24
Recreational and Social Activities	
Sites Where Available	70
Times Available Per Month	
Never	30
1	11
2 to 5	20
6 to 10	6
11 to 20	24
More than 20	12

TABLE IV.15 *(continued)*

Service	Title VI Congregate Meal Sites
Activities Available at Meal Site[a]	
Arts/crafts	45
Music/dancing	22
Games/cards/bingo	41
Movies	31
Television	32
Exercise classes	32
Educational classes	44
Trips	51
Other	22
Other Services	
Sites Where Available	26
Services Available[a]	
Personal care services	8
Homemaker services	12
Home health aide services	4
Adult day care/adult day health services	1
Case management	9
Legal assistance	3
Outreach	9
Other	5
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Respondents were allowed to answer affirmatively to all that apply. Percentages may therefore total more than the percentage of sites providing service.

[b]In the survey, other transportation consisted of both assisted and unassisted transportation.

* = Less than 0.5 percent.

care, and completing other errands. One-third of all sites offer this assistance four or more times per week; overall, two-thirds offer it two or more times per week.

Information and Referral Services. Another important service that Title VI sites offer is information and referral about non-ENP agencies. ENP sites may thus act as formal or informal links to other agencies and services that participants might be interested in and eligible for. Eighty-five percent of Title VI congregate meal sites have formal or informal methods of disseminating information about these other services, including written materials, participant requests, or announcements by ENP staff (Table IV.15). Information is most commonly available about health care, social security, and housing; 80 percent or more of Title VI sites provide information and referral in these areas. Survey respondents indicated that information about these services is often available, and they often assist in making appointments, arranging transportation to and from another agency, and following up to see that participants are served satisfactorily. For example, 66 percent of all Title VI sites usually make appointments for participants or notify the other agency to expect the participant. Forty-three percent usually provide or arrange for transportation to the other agency. Fifty-four percent of all Title VI sites follow up on a referral to see that a participant was served by the agency. This is especially important since 83 percent of the sites reported that there is no public transportation available (see Table IV.3).

Non-Nutritional Counseling. A little more than one-half (56 percent) of all sites offer non-nutritional counseling (Table IV.15). This service covers a host of different issues important to participants, including personal and mental health, financial, legal, housing, and health issues. Overall, a little more than one-third of all Title VI sites make non-nutritional counseling available more than 10 times per month.

Health and Medical Services. Because the ENP was designed, in part, to assist in maintaining elderly people's health by improving nutritional intake, it may make sense for sites to offer other types of health-related services under the program. About one-half offer some type of health-related screening, therapy, or testing, such as blood testing, podiatry screening, and dental services (Table IV.15). A few

projects mentioned other types of tests available, such as eye exams or blood pressure tests, and two projects mentioned having full clinic services.

Recreation and Social Activities. A little more than two-thirds of sites offer recreational and social activities in addition to meals. These activities usually take many different forms. Trips, arts and crafts, educational classes, and games, cards, or bingo are available frequently. Other frequently mentioned activities include movies, television, and exercises classes.

Other Types of Non-Nutritional Services. About one-quarter of sites offer some type of other services to ENP participants. These services range from homemaker services to case management to outreach and personal care.

3. Characteristics of Home-Delivered Meal Services

Most Title VI nutrition projects (90 percent) arrange or provide home-delivered meals to elderly people in their service areas. In the remainder of this section, we describe characteristics of Title VI home-delivered meal services using data from the sample of nutrition projects that either arrange for or directly provide home-delivered meals.

Meal Service Schedule. Almost all home-delivered programs--97 percent--provide lunch; a small percentage (fewer than 5 percent) provide either breakfast or supper at least once a week (Table IV.16). In most nutrition projects with home-delivered programs--80 percent--meals are delivered five days a week. In general, only one meal is provided per delivery (95 percent). Fewer than five percent of programs provide more than five meals in a single delivery.

Meal Preparation Methods. Home-delivered meals are most frequently prepared at congregate meal sites (84 percent), where they are packaged and then distributed. Eight percent prepare meals in affiliated project kitchens, and 9 percent use outside vendors or caterers. With few exceptions, meals are

TABLE IV.16

CHARACTERISTICS OF HOME-DELIVERED MEAL SERVICES OFFERED BY NUTRITION PROJECTS
(Percentages)

	Title VI Projects Offering Home-Delivered Meals
Percentage Serving:	
Breakfast	2
Lunch	97
Dinner	2
Percentage of Projects by Number of Times Per Week Meals Are Served/Delivered	
1	4
2	*
3	8
4	5
5	80
>5	3
Percentage of Projects by Usual Number of Meals Per Delivery	
1	95
2	*
3-5	1
6-10	2
>10	2
How Meals Are Delivered	
Hot	96
Cold, to be eaten cold	9
Cold, to be reheated	4
Frozen, to be reheated	5
Other	2
Percentage Serving Modified Meals[a]	78
Average Percentage of Meals That Are Modified, for Those Serving Modified Meals[a]	76
Basis for Determining Who Receives Modified Meal[a]	
Participant request	33
Physician request	44

TABLE IV.16 *(continued)*

	Title VI Projects Offering Home-Delivered Meals
Recommendation from nutrition project professional staff	64
Other	35
Meal Preparer	
Nutrition project staff in central kitchen	8
Nutrition project staff at congregate site	84
For-profit contractor	8
Nonprofit contractor	1
Other	3
Unweighted Sample Size	**71**

SOURCE: Elderly Nutrition Program Evaluation, Nutrition Project survey, weighted tabulations.

[a]Information on modified meals pertains to survey questions about modified meals (low-salt, low-sugar, low-fat, or controlled-calorie meals) and therapeutic meals (meals for people with conditions such as obesity, heart disease, diabetes, or hypertension). If respondents indicated providing either modified or therapeutic meals, the project is considered to provide modified meals.

* = Less than 0.5 percent

delivered hot (96 percent of programs). Some projects deliver meals in other forms, including cold, to be eaten cold (9 percent).

Special Meals. Seventy-eight percent reported serving modified or therapeutic meals to meet participants' special health needs.

C. NUTRITIONAL EXPERTISE OF PROGRAM STAFF

The 1992 amendments to the Older Americans Act included several provisions about functions of organizations in the aging network that are to be carried out with advice from dietitians or "individuals with comparable expertise in nutrition and older people." The legislation authorizing the current study highlighted the need to look at issues related to levels of nutritional expertise among officials who oversee and operate the ENP. For both the ITO and nutrition project level of program administration, survey data were obtained on the numbers of staff members with nutrition credentials and their duties.

1. Nutrition Credentials of ITO Staff

A majority--62 percent--of ITOs have at least one staff member who is an RD or has other nutrition credentials (Table IV.17). Less than half (45 percent) of ITOs have one or more RDs on staff. For about two-thirds of the ITOs with an RD on staff (or 30 percent of all ITOs), the RD occupies a position whose job description requires the job holder to be a registered dietitian. Staff with RDs perform a variety of functions at the ITO level. At 89 percent of ITOs with an RD (40 percent of all ITOs), the RD provides technical assistance and training to nutrition provider or meal site staff. At 78 percent of ITOs with an RD (35 percent of all ITOs), the RD develops procedures or standards to be implemented and followed by service providers. Three-quarters of ITOs with an RD (33 percent of all ITOs) use their RD to monitor and/or assess nutrition services provided by projects or meal sites. Few ITOs (38 percent of ITOs with an RD, or 17 percent of ITOs overall) give RDs management or administrative responsibilities.

TABLE IV.17

NUMBER AND DUTIES OF REGISTERED DIETITIANS IN TITLE VI AGENCIES
(Percentages)

Characteristic	ITOs	Nutrition Projects
Have Access to Staff with Nutrition Credentials	62	68
Registered Dietitians (RDs)		
Number of RDs		
0	55	47
1	34	44
2 or more	11	9
RDs in Positions Requiring RD	30	33
Duties of RD		
Perform management or administrative duties	17	22
Provide technical assistance or training	40	46
Develop materials, procedures, or standards	35	40
Monitor or assess services	33	38
Provide services	--	52
Staff with Other Credentials		
Number of Staff with Other Nutrition Credentials		
0	61	58
1	19	17
2 or more	20	25
Types of Other Staff Credentials		
Dietitians but not RDs	10	13
Nutritionists but not RDs	8	11
Certified dietary managers	12	17
Dietetic technicians	8	11
Graduates of four-year nutrition programs	7	8
Graduates of home economist programs	2	1
Certificate or training in food handling, service, or sanitation[a]	5	4
Course work in nutrition or food service[a]	1	3
Graduate of four-year other related program[a]	1	2
Other	2	2
Staff in Positions Requiring Nutrition Credentials	13	14
Unweighted Sample Size	**110**	**71**

SOURCE: Elderly Nutrition Program Evaluation, ITO and Title VI Nutrition Project surveys, weighted tabulations.

[a]Category was not an option on questionnaire. Frequencies are based on verbal responses to "other--specify" option and therefore may not capture all staff who possess these qualifications.

* = Less than 0.5 percent.

Approximately 40 percent of ITOs reported having staff with nutrition credentials other than an RD degree (Table IV.17). These staff include dietitians and dietary managers, nutritionists, graduates of four-year nutrition programs, and home economists. At about one-third of the ITOs that have persons with other nutrition credentials (13 percent of all ITOs), the staff members are in positions that require their non-RD nutrition credentials.

2. Nutrition Credentials of Project-Level Staff

The prevalence of staff with RDs or other credentials at the project level is somewhat higher than that at the ITO level--68 percent of nutrition projects have access to staff with nutrition credentials (Table IV.17). Fifty-three percent of the nutrition projects are staffed or have access to at least one RD. Almost all of the projects with RDs (52 percent of all projects) use them to provide nutrition education, counseling, or other nutrition services Offering training and technical assistance, as well as developing materials, procedures, or standards are also often reported as duties of RDs. About two-thirds of projects with RDs (33 percent of all nutrition projects) have RDs in positions requiring this credential. Forty-two percent of nutrition projects report having staff with other nutrition credentials. Many of the projects report having staff with several different types of credentials. Staff are often dietitians, nutritionists, certified dietary managers, or have certificates or training in food handling, service, or sanitation. Other types of frequently mentioned staff include dietetic technicians and graduates of four-year nutrition programs.

D. INTERACTIONS BETWEEN DIFFERENT LEVELS OF PROGRAM ADMINISTRATION

In order for Title VI of the ENP to operate successfully, the layers of program administration must coordinate their responsibilities and operations effectively. In this section, we explore these interactions on the basis of agency survey data.

1. Technical Assistance and Training

ITOs/nutrition projects can benefit from training and technical assistance provided by several agencies--AoA, Three Feathers Associates (a Title IV grantee funded by AoA to help provide technical assistance and training), and State Units on Aging (SUAs).

Technical Assistance and Training from AoA. Seventy-three percent of ITOs reported receiving technical assistance from AoA during the past year (Table IV.18).[5] The majority of those receiving technical assistance received that assistance on fewer than five separate days. The median number of days during the past year in which all ITOs received technical assistance from AoA equals two. Almost two-thirds of ITOs reported receiving training from AoA staff in the previous year.[6] Of those that received training, almost two-thirds report receiving five or fewer days of it; the median for all ITOs equals two. Sixty-two percent of ITOs mentioned one or more areas in which they need additional technical assistance or training from AoA.

Technical Assistance and Training from Three Feathers Associates. Three Feathers Associates is a Title IV grantee that provides additional technical assistance and training to agencies in the Title VI program under a cooperative agreement with AoA. Fifty-eight percent of ITOs reported receiving at least some technical assistance from Three Feathers Associates during the past year (Table IV.18). The median number of separate days on which all ITOs received technical assistance is two. Seventy-six percent of ITOs reported receiving training from Three Feathers Associates' staff in the previous year. The median number of separate days on which training was received by all ITOs also equals two. Overall, 55 percent of ITOs mentioned one or more areas in which they needed more technical assistance or training from Three Feathers Associates.

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[5]Defined as "advice or information in person, by mail, or over the telephone."

[6]Training was defined in the question as "formal instruction, either in person, by mail, or over the telephone."

TABLE IV.18

TECHNICAL ASSISTANCE AND TRAINING EXPERIENCES AND NEEDS OF ITOs
(Percentages)

	Received by ITOs from AoA	Received by ITOs from Three Feathers Associates	Received by ITOs from SUAs
Received Technical Assistance During the Past Year	73	58	43
Median Number of Days on Which Received Technical Assistance	2	2	2
Received Training During the Past Year	63	76	41
Median Number of Days on Which Received Training	2	2	2
Need More Technical Assistance or Training	62	55	45
Unweighted Sample Size	**110**	**110**	**110**

SOURCE: Elderly Nutrition Program Evaluation, ITO survey, weighted tabulations.

[a]Technical assistance refers to clarifying information or advice received either over the telephone, in person, or through written documents.

[b]Training refers to formal skills instruction, either in person, by mail, or over the telephone.

Technical Assistance and Training Received by ITOs from SUAs. Of the ITOs surveyed, 43 percent reported receiving technical assistance from SUAs on one or more separate days during the past year (Table IV.18). Forty-one percent reported receiving training during the past year. The median number of separate days on which ITOs received technical assistance, as well as the median number of days on which they received training, equals two. A little less than half of the ITOs (45 percent) reported one or more areas in which they needed additional technical assistance or training from AAAs.

Needs for Additional Technical Assistance and Training. ITO survey respondents who had not received training or technical assistance or reported not receiving enough were asked an open-ended question about what types of additional assistance would have been useful. Because the responses from ITOs and projects were very similar, we discuss the needs of the two sets of agencies for more technical assistance and training together. Table IV.19 lists the broad range of areas in which ITOs and projects would like more assistance. These open-ended responses were grouped according to broad categories, such as information about program policy (for example, new laws and reporting systems), operational issues (for example, menu planning and food preparation), and longer-range issues (for example, fundraising and linkages with other long-term care providers).

A large number of ITOs want more training from AoA on nutrition topics--basic nutrition and food preparation (including menu planning, purchasing, and maintaining safety and sanitation). Other areas include managing the budget (budgeting and grant writing), determining the extent of services provided (such as meals or transportation assistance), reporting information to AoA (preparation of reports, use of computers and the client tracking system), and analyzing nutritional needs and food content. Agencies also want guidance on development of policies and procedures, outreach, prevention of elder abuse, and volunteer management. The development and maintenance of support services, such as information and referral, home health care, legal assistance, and guidance on diseases, including Alzheimer's, were often mentioned as well.

TABLE IV.19

AREAS IN WHICH MORE TRAINING AND TECHNICAL ASSISTANCE NEEDED, AS REPORTED BY TITLE VI AGENCY STAFF

Funding

Managing funding (cost containment and budget control, collection of participant contributions, competitive purchasing)
Identifying additional funding sources (fundraising, grant writing, tribal resources, the state)
Leveraging funding to cover other related needs
Lobbying and understanding how appropriations are set
Pricing a serving

New Laws and Regulations

Complying with reporting requirements (implementing and using NAPIS/client tracking system, training staff on system and method to determine units of service provided)
Interpreting laws and regulations; developing policies, procedures, and standards (understanding what can and cannot be done)
Coordinating and understanding relationship between Title VI and Title III programs
Understanding rules and regulations on Medicare and Medicaid

Staffing and Personnel Issues

Training staff (use of computers, basic nutrition education; specifically for site directors, cooks, drivers)
Finding and keeping volunteers
Supervising personnel
Managing stress

Interacting with Other Agencies

Establishing relationships with caterers/contractors
Verifying meal and transportation counts, temperatures
Facilitating government-to-government relations

USDA Program

Using commodities program efficiently (purchasing)

Meals

Maintaining food safety and sanitation
Purchasing food
Planning menus (meeting RDA requirements and special dietary needs of elderly people, particularly those with diabetes)
Understanding and implementing nutrition issues in food preparation
Balancing provision of modified or cultural meals with cost containment
Obtaining standardized recipes
Controlling portions
Making meals nutritious and appealing

TABLE IV.19 *(continued)*

Other Nutrition Services
Providing nutrition education to participants
Non-Nutrition Services
Transportation (funding issues)
Information and referral (ways to compile documents on services, how to coordinate)
Information on community-based long-term care (keys to maintaining independence in elderly population, coordination with other programs)
Case management (needs assessment and advocacy)
Recruiting guest speakers
Understanding and implementing elder abuse prevention program
Understanding and implementing more extensive support services (generally)
Home health and adult day care
Health and fitness program
Safety Issues
Preventing diseases among elderly population
Outreach
How to reach geographically isolated seniors
How to make outreach more effective
Customer Service
Understanding the needs of the elderly population better
Assisting participants with Alzheimer's disease
Other Administrative Issues
Record keeping
Automated data processing
Better control of geographic area covered by grant
Paperwork conformity and efficiency (developing forms that are more specific to tribes, understanding forms)
Advice on long-term planning
Inventory control
Other Topics
Information on Social Security, Supplemental Security Income
Use and implications of Medicaid waivers

SOURCE: Elderly Nutrition Program Evaluation, ITO and Nutrition Project surveys.

NOTE: Information reflects broad areas in which agency staff mentioned they would like additional training and technical assistance.

The primary areas in which nutrition projects would like more training, according to their responses to open-ended questions, are planning and providing meals (such as portion control, use of standardized recipes, food procurement and handing), sanitation issues (such as monitoring temperatures), changes in regulations and reporting (record keeping, client tracking, computer training and assistance, and counting units of services), integration with other home- and community-based long-term care providers, finding and keeping volunteers, management of support services (such as case management, information and referral, outreach, transportation assistance, and adult day care), and assistance in budget management (such as fund-raising strategies, calculation of meal costs, and management of donations). Training on how to be an advocate for elderly individuals was also mentioned, including the need for information on the prevention of abuse of elderly people. Several respondents mentioned a desire for assistance in coordinating Title III and Title VI.

E. INTERACTIONS WITH OTHER AGENCIES

For the ENP to operate as effectively as possible, its services must be carefully coordinated with those of other agencies that provide assistance to elderly people. In this section, we focus on two sets of interactions with non-ENP agencies that are particularly relevant to ENP programs:

1. The integration of the program with home- and community-based long-term care initiatives
2. The use by the program of USDA commodities and cash in lieu of commodities

1. Integration with Home- and Community-Based Long-Term Care Services

ITOs were asked about their ongoing activities to integrate Title VI with other home- and community-based long-term care services. Since virtually all ITOs function as both an ITO and a nutrition project, responses were not separated into distinct agency levels. Responses to these questions reflect the ITOs' perceptions of the varying roles of the Title VI program in long-term care, specific services and activities

that make these roles possible, and barriers to integration of Title VI and other services for the older tribal populations.

Twenty-eight ITOs answered questions concerning ongoing efforts to integrate Title VI and home- or community-based long-term care programs and services (Table IV.20). ITOs are involved in the planning and delivery of a wide range of long-term care services. They report providing services directly and working with other agencies at the state, regional, or local level to coordinate these services. Among the programs and services provided directly are housing for elderly people, home health care (including assistance with Activities of Daily Living), ombudsman programs, needs assessments for elderly people, nutrition education, telephone support, home visitor programs, transportation (for example, for food shopping or medical appointments), financial services to identify resources for other household costs (such as utilities), and planning for institutional care. Other programs and services provided directly are homemaker services, local senior centers, home meals, health representative programs that provide home visitors to monitor client needs and make necessary referrals for services, outreach, community-based long-term care centers for Medicaid recipients, nursing services, vocational rehabilitation, and information and referral. The agencies and providers the ITOs report working with to integrate Title VI and other long-term care services include regional elder organizations, community-level social service agencies, community health representatives, home health care agencies, intertribal and county agencies, and community health clinics that provide coordinated health and related services. The list also includes state planning boards, area health departments, hospice programs, the Indian Health Service and United Way community action programs, elder protective services, community option programs, and county adult day care and long-term care programs.

Twenty-nine ITOs responded to the survey item concerning the nature of their working relationship with other home- and community-based agencies. Most reported good to excellent relationships. Some

TABLE IV.20

CATEGORIES OF RESPONSES TO OPEN-ENDED QUESTIONS ON INTEGRATION OF TITLE VI WITH OTHER LONG-TERM CARE PROVIDERS AT ITO LEVEL

Efforts ITOs Make to Integrate with Home- or Community-Based Long-Term Care Programs[a]
Provide specific long-term care services
Coordinate Title VI with other services
Other
Ways Title VI Could Be More Fully Integrated with Other Long-Term Care Services[b]
Develop regional networking and information exchange
Increase public awareness
Increase funding
Increase staff and staff training
Develop tribal nursing home and assisted-living units
Other

SOURCE: Elderly Nutrition Program Evaluation, ITO survey.

[a]The items listed represent broad categories of answers to an open-ended question on efforts the agency has made to integrate Title VI services with home- or community-based long-term care programs.

[b]The items listed represent broad categories of answers to an open-ended question on how the Title VI program could be more fully integrated with home- or community-based long-term care operations.

barriers were noted, including the lack of telephones to facilitate networking and communications and a lack of time to interact more effectively.

Of the 35 ITOS that responded to the question concerning future plans to integrate Title VI with other home- and community-based services, most indicated that they were working on the development of specific programs and services or targeting interactions with particular agencies and programs. Services being planned included home care, nursing services, reservation nursing homes, homemaker services, hospitals on the reservation, elder and adult day care services and facilities, community centers for all Indian health services, specialized housing, home meals, needs assessments, and transportation and escort services for elderly people. The ITOs were focusing on these agencies and programs for future collaborations, including Medicaid waiver and adviser programs, Indian hospitals, SUAs and state legislatures, tribal coalitions, and housing facilities for elderly people. Some ITOs reported that they need a better understanding of what they can do to plan more effectively for the integration of Title VI and other long-term care services and programs.

There were 90 responses about how the Title VI program could be more fully integrated with home- and community-based long-term care activities (Table IV.20). Some ITOs were uncertain about strategies that would make integration work more effectively; others indicated there were no long-term care providers in their region. Of those that identified specific mechanisms, ITOs indicated the need for more information about providers of home and community-based long-term care services, development of state and county networking, more funding for home care services (including home meals, home health care providers, and managed care services), and programs to involve families and friends more fully in the care of older people. They also indicated the need for increased public awareness, development of a tribal nursing home and assisted-living units, increased volunteer services (particularly for homebound clients), more staff training and education, outreach, case management, more transportation, and adult day care.

An additional question asked how Title VI program standards were modified to accommodate the requirements of long-term care programs. The responses included changing age eligibility requirements, making staff available for nursing home day visits, providing meals to people on dialysis, increasing transportation services, providing meals in assisted-living facilities, and referring clients to food stamp programs and hospice facilities.

Medicaid Waiver Program. One specific form of coordination between the ENP and home- and community-based long-term care relates to funding for meals provided by ENP nutrition projects to elderly people on Medicaid. As part of a coordinated system of services for Medicaid participants who are at risk of institutionalization, a state can obtain a Medicaid waiver, under which Medicaid funds can be used to pay for the costs of providing these participants with a number of services, including meals. Only two ITOs reported that such waivers have been set up for home-delivered meals in their states, and only one indicated that it had an arrangement for congregate meal service. Of these two ITOs, one reported involvement in establishing the Medicaid waiver program. Furthermore, seven ITOs (seven percent) without such arrangements reported attempts to develop them.

Referrals. Another aspect of the integration of Title VI with other home- and community-based long-term care agencies is the extent to which Title VI nutrition service providers get participant referrals from these agencies. The most common sources, for both congregate and home-delivered programs, are family or friends and participant self-referral (Table IV.21). Hospitals, intermediate care facilities, doctors, case management service agencies, and other community agencies were also often reported as providing referrals, particularly for home-delivered meal recipients, but home-delivered participants are more likely to be referred by family, friends, or neighbors or through self-referral than by these community agencies. Other sources of referral include clergy, tribal clinics, and outreach by ENP agencies (in the form of newsletters and public service announcements on television or in newspapers).

TABLE IV.21

NUTRITION PROJECT PARTICIPANT REFERRAL SOURCES
(Percentages)

	Title VI Congregate Meal Programs		Title VI Home-Delivered Meal Program	
	Use Source	Rank Source "1" or "2" in Importance	Use Source	Rank Source "1" or "2" in Importance
Hospitals or Intermediate Care Facilities	48	7	57	10
Medical Doctors	58	25	81	42
Case Management Service Agencies	72	15	72	19
Other Community Agencies	76	20	70	28
Participant Self-Referral	98	50	91	35
Family or Friends	98	61	96	51
Other	33	22	24	13
Unweighted Sample Size	**67**	--	**67**	--

SOURCE: Elderly Nutrition Program Evaluation, Nutrition Project survey, weighted tabulations.

2. Participation in USDA Commodities or Cash in Lieu of Commodities Program

USDA provides Title VI agencies with commodities or cash in lieu of commodities. Agencies also have the option of combining commodities and cash. Legislation has authorized a ceiling for reimbursements under the USDA commodity program, set at a certain monetary value per meal served.[7] Commodities typically include frozen or chilled beef or poultry, cheese, pasta, rice, canned or frozen vegetables, flour, vegetable oil, and butter. Many observers believe that, for nutrition projects equipped to handle commodities, accepting them rather than cash in lieu of commodities is more cost-effective. Furthermore, additional commodities are available for agencies that take at least 20 percent of their program benefits as commodities.

Title VI nutrition projects were asked about their usage of USDA commodities or cash in lieu of commodities, what the percentage of allotment was if the project received cash and commodities, and why projects did not use commodities if they accepted cash only (Table IV.22). Seventy-three percent of respondents indicated that they choose cash in lieu of commodities exclusively. Another 11 percent accept a mix of both, and only 7 percent choose commodities exclusively. Overall, then, 17 percent of projects use USDA commodities. Eleven percent receive neither cash nor commodities.

Projects accepting a mix of commodities and cash were asked about the proportion of their USDA allotment that they accept as commodities. Of those accepting a mix of cash and commodities, the vast majority (76 percent) accept less than half of their allotment in commodities. Twenty-nine percent accept more than 80 percent as cash, indicating the limited extent of commodity usage among those that accept both.

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[7]Title VI agencies complete a monthly meal service report, on which the entitlement level is based. For fiscal year 1994, reimbursement was set at 60.6 cents per meal (U.S. General Accounting Office 1995).

TABLE IV.22

TITLE VI PROJECTS' USE OF USDA COMMODITIES

	Title VI Nutrition Projects
USDA Option Chosen by Nutrition Project	
USDA commodities only	7
USDA cash in lieu of commodities option only	73
Both USDA commodities and cash	9
None	11
Percentage of Allotment Received as Commodities[a]	
1 to 20	30
21 to 30	11
31 to 50	30
51 to 99	30
Reasons Projects Do Not Order USDA Commodities[b]	
Quantities too large to be practical	8
Transportation cost too high	9
Lack of storage facilities/storage cost too high	19
Selections not broad enough/lack variety	9
Receipt limits flexibility	5
Not available in this state	4
Selections not appropriate for elderly	11
Use caterer/caterer can't use[c]	10
Selection not appropriate for racial/ethnic groups[c]	*
Hard to plan[c]	2
Quality[c]	*
Cash cheaper/easier[c]	8
Don't know	6
Other	32
Unweighted Sample Size	**70**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

[a]Tabulated for only those projects receiving both cash and commodities.

[b]Tabulated for only those projects that do not receive USDA commodities.

[c]Category was not an option on questionnaire. Frequencies are based on verbal responses to "other--specify" option and therefore may be underrepresentative.

*= Less than 0.5 percent.

Projects that do not receive USDA commodities were asked about the reasons for their choice.[8] Respondents could select more than one reason, and many offered additional reasons besides those listed in the questionnaire. Common reasons include the lack of storage facilities, high transportation costs, and the incompatibility of commodities with the use of caterers and contractors. Other reasons suggest that quantities are too large to be practical and that cash is easier or more cost-effective to use.

F. QUALITY OF PROGRAM SERVICES PROVIDED

The data collection effort included different indicators of the quality of ENP services. In this section, we examine three important dimensions of quality:

1. The nutritional quality of meals offered
2. Participants' satisfaction with program services
3. The safety and sanitation practices used in preparing and serving meals

1. Nutritional Quality of Meals Offered

The 1992 amendments to the OAA require program meals to (1) comply with the *Dietary Guidelines for Americans*, and (2) meet the Recommended Dietary Allowances (RDAs) for key nutrients (that is, a minimum of one-third of the RDAs if the project provides one meal per day, two-thirds of the RDAs if the project provides two meals per day, and 100 percent of the RDAs if the project provides three meals per day).

Compliance with the *Dietary Guidelines for Americans* is a new requirement. For years, projects have been encouraged to apply these recommendations to program meals, but they have never before been included in program requirements. Before the 1992 amendments, the OAA required that each meal contribute one-third of the RDAs. Under the new requirements, in programs providing more than one meal

[8]These projects refer to those that take the USDA cash in lieu of commodities option only and those that take neither the commodities or cash in lieu of commodities options.

per day, the nutrient content of one meal can be below the RDAs, if the other meals make up the difference and the appropriate total nutrient content is achieved for the day. This does mean that, on a per-meal basis, programs must average one-third of the RDAs.

An important measure of the quality of program meals is the degree to which these requirements are met. We have already reviewed participants' 24-hour dietary intakes in Chapter III, where we saw that the program meals participants eat do indeed contribute at least one-third of the RDAs for most nutrients. A more direct way of assessing the nutritional quality of program meals is to observe the meals offered at program sites and to analyze their nutritional content. To support this analysis, we randomly selected two meals at each of the congregate sites included in the in-person data collection and recorded their contents using computer-assisted personal interviewing (CAPI) on laptop computers. In addition, we selected and analyzed one home-delivered meal for each of the home-delivered meal routes whose meal participants were interviewed. The nutritional contents of the resulting food data were analyzed by the University of Minnesota, using essentially the same methods used in processing the 24-hour dietary intake data. This section reports the results of this approach.

Nutrient Availability Relative to RDAs. The conclusions are basically consistent with those from the 24-hour dietary intake data--most program meals appear to satisfy the RDA requirements. On average, both congregate and home-delivered meals supply at least one-third of the RDAs for virtually all nutrients (Table IV.23). The only exception is that the average zinc content of meals falls just short of the RDA requirement for older males for congregate meals and slightly more so for home-delivered meals. For many of the nutrients studied, the nutritional content of the average meal was well in excess of the RDAs. For instance, average intakes for Vitamin A, Vitamin B_{12}, and phosphorous were 70 percent or more of the daily female RDAs.

The data in Table IV.23 are also interesting in that they show that the *nutrient density* of program meals, as measured by nutrients per kilocalorie of food energy, is quite high. In general, the food energy

TABLE IV.23

MEAN NUTRIENT AVAILABILITY PER TITLE VI PROGRAM MEAL
(As a Percentage of RDA)

	Congregate Meals		Home-Delivered Meals	
Nutrient	Female RDA	Male RDA	Female RDA	Male RDA
Food Energy (Calories)	44.2	36.5	40.4	33.4
Protein	72.7	56.7	74.3	58.9
Vitamin A	79.6	63.7	91.8	73.4
Vitamin C	79.5	79.5	63.1	63.1
Vitamin D	52.1	52.1	60.7	60.7
Vitamin E	51.3	41.0	42.6	34.1
Thiamin	68.6	57.2	72.5	60.4
Riboflavin	67.0	57.5	68.1	58.4
Niacin	68.3	59.2	72.2	62.6
Vitamin B_6	45.8	36.7	49.6	39.7
Folate	59.1	53.2	52.0	46.8
Vitamin B_{12}	99.7	99.7	86.9	86.9
Calcium	49.8	49.8	46.9	46.9
Iron	54.9	54.9	45.8	45.8
Phosphorous	72.3	72.3	70.3	70.3
Potassium	72.0	72.0	63.3	63.3
Magnesium	46.1	36.9	41.0	32.9
Zinc	41.3	33.0	35.4	28.3
Unweighted Sample Size	**37**	**37**	**33**	**33**

SOURCE: Elderly Nutrition Program Evaluation, Meals Offered survey, weighted tabulations.

NOTE: Program standard per meal is one-third of the RDA.

RDA = Recommended Dietary Allowance.

(calorie) content of the meals is lower, as a percentage of the food energy RDA, than the intakes of other nutrients, as measured against their RDAs. This pattern implies that the ENP meals are relatively "nutrient dense" and supply relatively high levels of nutrients per kilocalorie.

Two other approaches to analyzing the nutrient content of program meals as offered were pursued. The first focused on *median* nutrient intakes, rather than means, while the second examined percentages of meals meeting one-third of the RDA for various nutrients. An analysis of these two sets of variables produced results (shown in Appendix I) that are essentially consistent with those reported in Table IV.23.

Nutrient Availability Relative to *Dietary Guidelines* and NRC Recommendations. Table IV.24 shows the macronutrient results are similar to those from the 24-hour dietary intake analysis. Both congregate and home-delivered program meals, as offered, provide approximately 36 percent of food energy (calories) from total fat, and between 1,300 and 1,450 mg of sodium chloride per day. About 47 percent of calories come from carbohydrates, and 19 percent, from protein. Thus, program meals tend to be higher in total fat, saturated fat, and sodium than recommended and lower in carbohydrate.

2. Participants' Satisfaction with Program Services

Another indicator of program quality is whether participants are satisfied with program services. The evidence from the participant survey suggests a high degree of satisfaction. The participant interview included a series of questions about attitudes toward various aspects of the program. Most of the questions included a four-level response category, with the higher two levels indicating various degrees of positive satisfaction and the lower two categories indicating various degrees of dissatisfaction. As discussed in detail next, the majority of respondents reported the highest level of satisfaction in response to most questions. Very small percentages indicated either of the two levels of dissatisfaction in response to any of the questions. In addition, most of the participants using program services, such as transportation or recreation, indicated that the services were very important to them and that they were dependent on them.

TABLE IV.24

AVAILABILITY OF MACRONUTRIENTS, SODIUM, AND DIETARY CHOLESTEROL FROM TITLE VI MEALS
(Per Program Meal)

Dietary Component	Congregate Meals	Home-Delivered Meals
Carbohydrate		
Mean Percentage of Food Energy (Calories) from Carbohydrate	48.5	46.6
Median Percentage of Food Energy (Calories) from Carbohydrate	46.7	47.9
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 45 percent	33	42
45 to 55 percent	47	38
56 to 65 percent	20	19
Greater than 65 percent	*	1
Total Fat		
Mean Percentage of Food Energy (Calories) from Total Fat	35.3	35.4
Median Percentage of Food Energy (Calories) from Total Fat	36.3	34.9
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 20 percent	5	2
20 to 30 percent	12	18
31 to 35 percent	29	33
36 to 40 percent	21	16
41 to 50 percent	32	26
Greater than 50 percent	*	5

TABLE IV.24 *(continued)*

Dietary Component	Congregate Meals	Home-Delivered Meals
Saturated Fat		
Mean Percentage of Food Energy (Calories) from Saturated Fat	12.7	12.5
Median Percentage of Food Energy (Calories) from Saturated Fat	11.8	11.9
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	*	3
5 to 10 percent	17	6
11 to 15 percent	55	77
16 to 20 percent	28	5
Greater than 20 percent	*	9
Protein		
Mean Percentage of Food Energy (Calories) from Protein	17.7	19.4
Median Percentage of Food Energy (Calories) from Protein	18.2	19.5
Distribution of Intake as a Percentage of Food Energy (Calories)		
Less than 5 percent	*	*
5 to 15 percent	29	20
16 to 25 percent	67	75
Greater than 25 percent	4	5
Sodium		
Mean Intake (mg Per Day)	1,390	1,229
Median Intake (mg Per Day)	1,283	1,088

TABLE IV.24 *(continued)*

Dietary Component	Congregate Meals	Home-Delivered Meals
Distribution of Intake		
800 mg or less per day	3	35
801 to 1,000 mg per day	16	14
Greater than 1,000 mg per day	81	51
Dietary Cholesterol		
Mean Intake (mg Per Day)	93	105
Median Intake (mg Per Day)	92	89
Distribution of Intake		
100 or less mg per day	61	66
101 to 134 mg per day	26	21
Greater than 134 mg per day	13	13
Unweighted Sample Size	**37**	**33**

SOURCE: Elderly Nutrition Program Evaluation, Meals Offered survey, weighted tabulations.

NOTE: The *Dietary Guidelines* recommend that (1) total fat intake should be 30 percent or less of food energy intake, and (2) saturated fat intake should be 10 percent or less of food energy intake. The National Research Council recommends that intake of (1) cholesterol should be less than 300 mg per day, (2) sodium chloride should not exceed 2,400 mg per day, and (3) carbohydrates should be at least 55 percent of food energy.

* = Less than 0.5 percent.

Congregate Participants. When asked about the safety of the meal location, 73 percent of congregate participants rated the location as extremely safe (Table IV.25), while another 25 percent believed that the location was safe except at certain times. Only two percent described it as somewhat dangerous or usually unsafe. Eighty-one percent of respondents described their congregate sites as very pleasant, while most of the rest--18 percent--ranked their sites as fairly pleasant. Respondents who rated their sites as less than very pleasant gave a variety of reasons why they found the site unpleasant. Five percent of all respondents felt that the other participants were not pleasant or tended to break into cliques and were not friendly. Staff were rated as not pleasant by eight percent. Other responses indicated that sites were too old, small, noisy, or unclean.

Most respondents are pleased with the portion sizes in the meals; 93 percent indicated that they always get enough to eat. In response to a question about whether program meals had been unavailable at their site at any time in the previous six months, most congregate participants (97 percent) said no. Only two percent reported meals being unavailable more than once. The percentages of congregate participants who reported being very satisfied were 65 percent for how the food tastes, 64 percent for how the food looks, 72 percent for the food temperature, and 63 percent for the food variety. Most of the other respondents are somewhat satisfied with these characteristics of congregate meals. No more than three percent rated the food in one of the two lower satisfaction categories on any of these dimensions.

In general, respondents were also satisfied with the types of meals served. Sixty-one percent said they were very satisfied with getting foods they personally like, and 65 percent felt very satisfied that any special dietary needs they had were met. Most of the people who did not rate themselves as very satisfied indicated that they were somewhat satisfied, although 12 percent were either not too satisfied or not at all satisfied that their special dietary needs had been met.

In response to a question about what they particularly liked about congregate meals, 70 percent mentioned other participants, 69 percent mentioned the meals, and 23 percent mentioned supportive

TABLE IV.25

TITLE VI CONGREGATE PARTICIPANTS' SATISFACTION
WITH MEAL AND OTHER PROGRAM SERVICES

Aspect of Service	Percentage of Participants
Safeness of Meal Site Location	
Extremely safe	73
Safe, except at certain times	25
Somewhat dangerous or usually unsafe	2
Pleasantness of Meal Site	
Very pleasant	81
Fairly pleasant	18
Not too pleasant	1
Aspects of Meal Site That Are Not Pleasant	
Physical Facility	29
Other Participants	5
Staff	8
Food	2
Activities	11
Other	52
Get Enough to Eat from Program Meal	
Always	93
Sometimes	4
Rarely or never	3
Number of Times Not Served Program Meal When Attended Meal Site During the Past Six Months	
Never	97
Once	1
Two or more times	2
Satisfaction with How Food Tastes	
Very satisfied	65
Somewhat satisfied	30
Not too satisfied	5
Not at all satisfied	*
Satisfaction with How Food Looks	
Very satisfied	64
Somewhat satisfied	34
Not too satisfied	2
Not at all satisfied	*

TABLE IV.25 *(continued)*

Aspect of Service	Percentage of Participants
Satisfaction with Temperatures of Meals/Foods	
Very satisfied	72
Somewhat satisfied	19
Not too satisfied	7
Not at all satisfied	3
Satisfaction with Variety of Food Served	
Very satisfied	63
Somewhat satisfied	31
Not too satisfied	5
Not at all satisfied	*
Satisfaction with Getting Foods Personally Like	
Very satisfied	61
Somewhat satisfied	33
Not too satisfied	5
Not at all satisfied	1
Satisfied with the Degree That Special Dietary Needs Met	
Very satisfied	65
Somewhat satisfied	23
Not too satisfied	6
Not at all satisfied	6
Perception of Suggested Meal Contribution Amount[a]	
Too high	4
About right	70
Too low	26
What Participants Like About the Meals Program	
Participants	70
Meals	69
Supportive services	23
Staff	48
Sample Size	**212**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

Notes: Congregate participant tabulations are weighted to be representative of a cross-section of participants receiving Title VI congregate meals on a given day.

[a]Calculated for only those congregate participants who typically make a voluntary contribution for program meals. Twenty-four percent of congregate participants reported that they typically make a contribution for the program meal.

* = Less than 0.5 percent.

services. These responses suggest that, although participants are generally satisfied with the meals, the socialization aspect of the program is very important.

Respondents were also asked about their perception of the suggested contribution amount. Seventy percent rated it as about right. Interestingly, most of the remainder (26 percent of all respondents) thought the suggested contribution amount was too low. Only four percent thought it was too high.

Home-Delivered Meal Participants. Recipients of home-delivered meals are generally satisfied with them. Eighty-four percent said that they get enough to eat from the program meals (Table IV.26). Five percent, however, indicated that they rarely or never get enough to eat. Sixty-two percent of respondents said that their meals usually arrive at the proper temperature. Another 25 percent reported that the meals sometimes arrive at the proper temperature, while 13 percent said that their meals never arrive at the right temperature.

A similar distribution of responses was observed for a question about whether meals arrive on time. Sixty-nine percent of respondents said that they usually do, while eight percent reported that they never do. Sixty-five percent of the respondents who reported that their meals sometimes or always arrive late said that when the meals are late, they usually arrive less than half an hour late. Only one percent of respondents who reported late meals indicated that the meals typically arrive more than an hour late.

Somewhat lower satisfaction levels with various aspects of the food were found with home-delivered meal participants, compared with those observed for congregate participants. Fifty-seven percent are very satisfied with how the food tastes, 59 percent with how the food looks, 57 percent with the temperature of the food, and 59 percent with the variety of the food. Between 5 and 15 percent of the responses ranked the food in one of the two lowest response categories for any given criterion.

When asked about the suggested meal contribution amount, 93 percent thought it was about right, with virtually all the remainder saying it was too low. Ninety-five percent of respondents indicated that

TABLE IV.26

TITLE VI HOME-DELIVERED MEAL PARTICIPANTS' SATISFACTION WITH PROGRAM MEAL SERVICES

Aspect of Service	Percentage of Participants
Get Enough to Eat from Program Meal	
Always	84
Sometimes	11
Rarely or never	5
Meals Arrive at Proper Temperature	
Usually	62
Sometimes	25
Never	13
Meals Arrive at Correctly Scheduled Time	
Usually	69
Sometimes	23
Never	8
If Late, Meals Typically Arrive:	
Less than 15 minutes late	26
15 to 30 minutes late	39
31 to 60 minutes late	34
More than an hour late	1
Satisfaction with How Food Tastes	
Very satisfied	57
Somewhat satisfied	30
Not too satisfied	11
Not at all satisfied	2
Satisfaction with How Food Looks	
Very satisfied	59
Somewhat satisfied	36
Not too satisfied	2
Not at all satisfied	2
Satisfaction with Temperatures of Meals/Foods	
Very satisfied	57
Somewhat satisfied	29
Not too satisfied	13
Not at all satisfied	1

TABLE IV.26 *(continued)*

Aspect of Service	Percentage of Participants
Satisfaction with Variety of Food Served	
Very satisfied	59
Somewhat satisfied	31
Not too satisfied	9
Not at all satisfied	1
Satisfaction with Getting Foods Personally Like	
Very satisfied	54
Somewhat satisfied	36
Not too satisfied	9
Not at all satisfied	1
Satisfied with the Degree That Special Dietary Needs Met	
Very satisfied	45
Somewhat satisfied	41
Not too satisfied	10
Not at all satisfied	4
Perception of Suggested Meal Contribution Amount	
Too high	*
About right	93
Too low	7
Pleasantness of Delivery Person	
Usually pleasant	95
Sometimes pleasant	5
Never pleasant	*
What Like About Meals Program	
Meals	71
Person who delivers the meal	53
Other	35
Sample Size	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Home-delivered meal participant tabulations are weighted to be representative of a cross-section of participants receiving Title VI home-delivered meals on a given day.

[a]Calculated for only the home-delivered participants who typically make a voluntary contribution for program meals. Just 16 percent of home-delivered participants reported that they typically make a contribution for the program meal.

* = Less than 0.5 percent.

their delivery person is usually pleasant, and almost all the remainder rated him or her as sometimes pleasant.

When asked what they like most about the program, 71 percent of respondents indicated that the meals themselves are important to them. However, 53 percent also mentioned contact with the delivery person.

Participant Valuation of Services. To obtain additional information about the importance of the ENP and related services in participants' lives, we asked respondents a series of questions about how they value various services or what they would do if the services were not available. The results suggest that a substantial number of respondents find these services important and useful.

Twenty-six percent of congregate respondents said they use special transportation to and from the meal site. About six percent of the overall sample indicated that they would not be able to attend the meal site at all without these services, and another nine percent of the overall sample indicated that they would attend a lot less often (Table IV.27). Similarly, about 14 percent of the full sample said that, without special transportation provided by the site for shopping or health care visits, they would either not make such trips at all or would make them a lot less often (half of respondents who said they use this transportation service). Although a much smaller percentage of home-delivered participants use this service, more than half of them indicated they would be either unable to make such trips or would go a lot less often.

Congregate participants' degree of dependency on recreation services is somewhat lower. Although 61 percent reported that they use recreational services, only 11 percent reported that recreation at the meal site is their only social activity. However, another 20 percent of all congregate participants view the meal site as a major source of recreational activities.

Of the 63 percent of congregate participants who reported receiving nutrition education, almost all reported that it has been very or somewhat useful in helping them improve their eating habits. Almost all

TABLE IV.27

TITLE VI PARTICIPANTS' VALUATION OF MEALS AND SUPPORTIVE SERVICES RECEIVED FROM THE MEAL PROGRAM DURING THE PAST YEAR
(Percentages)

	Congregate Participants	Home-Delivered Participants
Used Special Transportation to and from Meal Site	26	NA
If Special Transportation Service Not Available, Would Go:		
Not at all	6	NA
A lot less often than now	9	NA
Somewhat less often than now	3	NA
About the same as now	8	NA.
Used Special Transportation for Shopping or Health Care Visits	27	15
If Special Transportation Service Not Available, Would Go:		
Not at all	8	2
A lot less often than now	6	4
Somewhat less often than now	3	5
About the same as now	9	4
Participated in Recreation Activities at Congregate Meal Site	61	NA
Meal Site Recreation Activities Are:		
Your only social activities	11	NA
A major source of your social activities	20	NA
One among other social activities	30	NA
Received Nutrition Education from Meal Program	63	48

TABLE IV.27 *(continued)*

	Congregate Participants	Home-Delivered Participants
To Improve Your Eating Habits, Nutrition Education from Meal Program Was:		
Very useful	35	21
Somewhat useful	26	26
Not too useful	1	1
Not at all useful	1	*
Received Nutrition Screening and Assessment from Meal Program	49	31
In Helping You Improve How and What You Eat, Nutrition Screening and Assessment from Meal Program Was:		
Very useful	29	17
Somewhat useful	20	13
Not too useful	1	*
Not at all useful	*	1
Received Nutritional Counseling from Meal Program	26	22
In Helping You Improve How and What You Eat, Nutritional Counseling from Meal Program Was:		
Very useful	16	10
Somewhat useful	9	9
Not too useful	*	3
Not at all useful	*	*
Received Information and/or Referral Services from Meal Program	24	11
Information and/or Referral Services from Program Were:		
Very helpful	17	7
Somewhat helpful	6	5
Not too helpful	*	*
Not at all helpful	*	*

TABLE IV.27 *(continued)*

	Congregate Participants	Home-Delivered Participants
Importance of Meal Program		
Your only source of food	6	NA
A major source of your food	38	NA
One of several sources of your food	55	NA
Unweighted Sample Size	**212**	**213**

SOURCE: Elderly Nutrition Program Evaluation, Participant survey, weighted tabulations.

NOTE: Tabulations are weighted to be representative of a cross-section of participants receiving Title VI meals on a given day. The percentages of participants receiving services in this table differ from those shown in Table II.14 because this table refers to receipt of services through the program, whereas Table II.14 considers service receipt from all public and private sources.

NA = Not applicable.

* = Less that 0.5 percent.

home-delivered meal recipients who remembered receiving nutrition education also rated the information in one of the two useful categories.

Similar results were obtained for other services, including nutrition screening and assessment, nutritional counseling, and information and referral services. Although no more than half of clients reported receiving the service, almost all that did found it to be very or somewhat useful.

Congregate respondents were also asked a question about the importance of the ENP meals in their overall diets. Approximately 6 percent indicated that the ENP was their only source of food, and 38 percent classified it as a major source of food. Thus, 44 percent of the participants view the program as a major source of nutrition. These responses are consistent with the dietary intake findings reported earlier, which showed that program meals account for substantial portions of participants' diets.

3. Food Safety and Sanitation Practices

As part of the evaluation, the sanitation and food safety practices of Title VI facilities that prepare, serve, or deliver food were examined. Almost all Title VI facilities (96 percent) both produce and serve food; therefore, we make no distinction between production kitchen and site (service) kitchen facility data, as we did with Title III facilities.

a. Formalized Written Standards, Procedures, and Food Safety Training

In general, written standards and procedures are available less frequently than might be desired. Fewer than three-quarters of sites have standards and procedures for each of nine listed points (Table IV.28). Only about half of the sites, for example, have procedures for receiving foods, and two-thirds, for cooking products.

Virtually all Title VI meal site respondents (97 percent) said they trained food preparation staff on food safety and sanitation issues (Table IV.28). A relatively low percentage of sites (30 percent), however, have a staff member certified in safety and sanitation. Sites with a certified staff member tend to have

TABLE IV.28

TRAINING AND WRITTEN STANDARDS AND PROCEDURES
FOR FOOD SAFETY AND SANITATION
(Percentages)

Practices	Title VI Facilities
Processes Subject to Written Standards and Procedures	
Receiving foods	54
Holding hot foods	61
Holding cold foods	61
Storing foods	72
Delivering hot foods	67
Cooling for storage	61
Precooking preparation	70
Cooking products	67
Reheating food	58
Provides Training for Food Preparation or Food Handling Staff on Food Safety and Sanitation Issues	97
Has Staff Member Certified in Food Safety and Sanitation	30
Staff Member Certified[a]	
Site (kitchen) director	19
Assistant director	9
Cook	23
Other personnel	11
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Meal Site survey, weighted tabulations.

[a]Percentages may add to more than the percentage having a certified staff member because a facility may have more than one staff member certified in food safety and sanitation.

more than one person certified. Cooks and site directors are certified most often, at 77 percent of sites with a certified staff member (23 percent of all sites) and 65 percent of sites with certified staff (19 percent of all sites).

b. Temperature Monitoring

Sixty-two percent of Title VI facilities monitor food temperatures (Table IV.29). Very few of these (fewer than 50 percent of those that monitor and fewer than one-third of all facilities) monitor food at critical control points in the food production and service cycle. Only nine percent of those that monitor (five percent of all facilities) monitor at the time of receipt of the food product. About half of those that monitor, or about one-third of all facilities, monitor food in refrigerators or freezers, in hot-holding units, or when removed from cooking units. Lower percentages monitor temperatures during meal preparation or when food is in cold-holding units, trays, or containers. Of sites that monitor food temperatures, 44 percent record these temperatures in a log (27 percent of all Title VI facilities).

Interviewers observed both the types of refrigerators and freezers kitchens have and the temperatures of these units. Refrigerator temperatures ranged from 31 to 45 degrees Fahrenheit, with the typical (median) temperature being 40 degrees Fahrenheit (Table IV.29). Freezer temperatures ranged from less than zero to 32 degrees, with the typical freezer temperature equaling zero degrees Fahrenheit.

Interviewers also observed the temperatures of nine hot-holding units. Temperatures ranged from 150 to 195 degrees Fahrenheit; two-thirds of temperatures were below 170 degrees Fahrenheit. The median temperature of hot-holding units was 165 degrees Fahrenheit.

These data seem to indicate, in general, that most Title VI kitchens have refrigeration equipment available, both in the kitchen and on the serving line, but monitoring temperatures in these units and checking the equipment gauges for accuracy are not done frequently. The same low pattern of temperature monitoring and gauge checking was observed for the hot-holding units on the serving line. Thus, there may

TABLE IV.29

TEMPERATURE MONITORING POINTS

Characteristic	Title VI Meal Sites/ Central Kitchens
Sites That Monitor Food Temperature	62
If Sites Monitor Temperature, Monitoring Points	
At product receipt	5
In hot-holding unit	33
When removed from cooking unit	31
During meal preparation	24
In refrigerator or freezer	29
In cold-holding unit	21
In trays or containers	13
On plates at congregate sites	*
Other	*
Sites Check the Temperatures of Food	
Never	38
More than once a day	35
Between once a day and once a week	23
Between once a week and once a month	4
Are the Temperatures Recorded in a Log?	27
Interior Temperature of Refrigerator (Based on Unit Gauge)	
31 to 35 degrees F	10
36 to 39 degrees F	20
40 degrees F	67
41 to 45 degrees F	5
Greater than 45 degrees F	2
Interior Temperature of Freezer (Based on Unit Gauge)	
Less than 0 degrees F	55
1 to 3 degrees F	5
4 to 5 degrees F	7
6 to 10 degrees F	28
11 to 20 degrees F	5
More than 30 degrees F	1
Observed Temperatures of Hot-Holding Units (Based on Unit Gauge)	
150 to 159 degrees F	6
160 to 169 degrees F	62
180 to 189 degrees F	13
Greater than 189 degrees F	19
Unweighted Sample Size	**39**

SOURCE: Elderly Nutrition Program Evaluation, Facility Observation surveys, weighted tabulations.

* = Less than 0.5 percent.

be increased opportunity for foods to be unsafe in these programs as a result of inappropriate temperatures in the holding areas.

c. Cleaning and Sanitizing Procedures

Food Contact Surfaces. Sites that prepare food (96 percent of all sites) were asked whether, and how often, they clean and/or chemically sanitize food contact surfaces. Eighty-six percent of the sites that prepare food reported cleaning these surfaces with detergent and rinsing them after every use (Table IV.30). Just 40 percent of the sites that prepare food reported chemically sanitizing food contact surfaces after every use; an additional 41 percent of the sites that prepare food sanitized contact surfaces daily. Twelve percent do not use chemical sanitizing solutions at all to sanitize food contact surfaces. For wooden surfaces, about 40 percent of Title VI facilities reported cleaning wooden surfaces with sanitizers, and another 36 percent indicated that they use detergent and rinse these surfaces with clean water. However, 12 percent reported only wiping them with a damp cloth.

Dishes and Service Ware. Fifty-five percent of Title VI facilities reported using a combination of manual and machine cleaning for dishes and service ware (Table IV.31). Thirty-six percent of the Title VI facilities reported using only manual cleaning. About two-thirds of Title VI facilities with dishwashers (or 42 percent of all facilities) use hot water sanitizing machines, but only 59 percent of them (25 percent of all facilities) have booster heaters for the final rinse. Seventy-six percent of the facilities with hot water sanitizing machines (32 percent of all facilities) have temperature gauges. Almost all of these facilities (96 percent of those with hot water sanitizing machines; 31 percent of all facilities) reported monitoring their dishwasher water temperatures, often once or more per day (91 percent of those that monitor; 28 percent of all facilities).

Interviewers were present when 57 percent of the facilities were using their dishwashers. Only two-fifths of the facilities had machines with functioning temperature gauges (unweighted n = 10). Table IV.31

TABLE IV.30

CLEANING AND SANITIZING PROCEDURES FOR FOOD CONTACT SURFACES
(Percentages)

Characteristic	Title VI Meal Sites/ Central Kitchens That Prepare Food[a]
Food Contact Surfaces Are Cleaned:	
After every use	86
Once a day	14
Never	*
Cleaning Schedule of Food Contact Surfaces Ensured by:[b]	
Site	82
Other	18
Food Contact Surfaces Are Sanitized:	
After every use	40
Once a day	41
Other	7
Never	12
Sanitizing Schedule Food Contact Surfaces Ensured by:[c]	
Site	80
Other	17
Nothing is done	3
Procedures for Wooden Surfaces, Such as Cutting Boards or Baker's Tables, After They Are Used for Food Preparation[d]	
Cleaned with detergent and rinsed	36
Sanitized with chemical solution	40
Wiped with a damp cloth	12
Other	*
No wooden surfaces	39
Unweighted Sample Size	**38**

SOURCE: Elderly Nutrition Program Evaluation, Facility Observation survey, weighted tabulations.

[a]The questions on how contact surfaces are cleaned and sanitized after they are used for food preparation were asked only for sites that *prepare* food. Ninety-six percent of Title VI facilities prepare food at their location. The results shown in the table apply to these sites.

[b]Calculated for those that clean food surfaces.

[c]Calculated for those that sanitize food surfaces.

[d]Percentages exceed 100 percent because multiple responses were allowed.

* = Less than 0.5 percent.

TABLE IV.31

CLEANING AND SANITIZING PROCEDURES FOR TABLEWARE AND KITCHEN UTENSILS
(Percentages)

Characteristic	Title VI Meal Sites/ Central Kitchens
Method Used to Clean Tableware and Kitchen Implements	
Machine cleaning only	9
Manual cleaning only	36
Both	55
Have Hot Water Sanitizing Dishwasher Model	42
Have Hot Water Sanitizing Dishwasher Model with Functioning Booster Heater	25
Have Hot Water Sanitizing Dishwasher Model with Temperature Gauge	32
Is Water Temperature Monitored?	31
Water Temperature on Hot Water Sanitizing Dishwasher Is Monitored:	
More than once a day	12
Once a day	16
Between once a day and once a week	*
Once a week	*
Once a month	2
Have Chemical Sanitizing Dishwasher Model	*
Dishwasher Wash Cycle Water Temperatures	
120 degrees F or lower	*
121 to 130 degrees F	4
140 degrees F	6
141 to 150 degrees F	11
151 to 159 degrees F	*
160 degrees F	4
161 to 169 degrees F	32
Greater than 169 degrees F	*
No dishwasher	36
Dishwasher Rinse Cycle Water Temperatures	
75 degrees F or lower	*
111 to 120 degrees F	*
121 to 139 degrees F	*
140 degrees F	17

TABLE IV.31 *(continued)*

Characteristic	Title VI Meal Sites/ Central Kitchens
141 to 150 degrees F	4
151 to 160 degrees F	*
161 to 170 degrees F	20
171 to 180 degrees F	12
Greater than 180 degrees F	10
No dishwasher	36
Number of Compartments (Tanks) in Sinks for Manual Cleaning	
1	4
2	19
3	68
Method Used to Sanitize for Manual Cleaning	
Chemical solution	74
Hot water	17
Chemical Test Kit Is Available to Check Solution When Use Manual Cleaning and Chemical Solution Method	19
Water Is Tested Using Chemical Test Kit	
More than once a day	*
Once a day	11
Once a week	*
Between once a week and once a month	2
Once a month	5
Less than once a month	1
Sinks Have Thermometers Mounted in Each Compartment for Hot Water Sanitation	*
Sinks Have a Functional Booster Heater for Hot Water Sanitation	3
Water Temperature Monitored for Hot Water Sanitation	2
Check Water Temperatures for Hot Water Sanitation	
More than once a day	*
Once a day	2
Once a month	*
Unweighted Sample Size	**38**

SOURCE: Elderly Nutrition Program Evaluation, Facility Observation survey, weighted tabulations.

* = Less than 0.5 percent.

presents data on the observed water temperatures in these machines during the wash and rinse cycles; it should be noted that the sample sizes for these frequencies are extremely small.

Ninety-one percent of facilities did some manual washing of tableware or kitchen utensils. Most (75 percent) of the sinks used for manual washing in these facilities are three-compartment sinks (68 percent of all facilities). Eighty-one percent of kitchens reported using chemical solutions if they manually clean dishes (74 percent of all facilities); the remainder (19 percent) use hot water to sanitize (17 percent of all facilities). Few of the facilities using hot water sanitation methods--only 15 percent--have booster heaters for the final rinse tank (3 percent of all facilities). In addition, few (27 percent) of the facilities using chemical sanitizing methods have chemical test kits available to check the chemical concentration in the final rinse tank (19 percent of all facilities). Those that do have the kits generally check the chemical concentration once a day, but some check just once per month. None of the Title VI kitchens reported having sink compartment thermometers in their manual wash sinks, and only one kitchen reported monitoring its sink water temperatures at all. Ninety-two percent of the Title VI facilities that clean dishes and tableware manually reported that site self-monitoring was the means of ensuring that they were cleaned properly.

In general, these data seem to indicate that the Title VI kitchens have adequate equipment for washing/sanitizing their dishes and tableware. More frequent monitoring of temperatures in the washing process, and less reliance on kitchen self-monitoring, however, can help ensure that washing and sanitizing processes are done properly.

d. Protective Devices on the Serving Line, Hand Washing, and Personnel Hygiene

Thirty-six percent of the Title VI facilities serving food have sneeze guards on their serving lines (not shown). In 78 percent of the facilities that handle food, food service personnel wear clean, disposable gloves (Table IV.32). The site observers reported that the personnel they saw at all of the Title VI facilities were clean. However, at only 72 percent of facilities did employees have their hair restrained, and at 18

TABLE IV.32

HEALTH AND SANITATION PRACTICES OF FOOD SERVICE PERSONNEL
(Percentages)

Characteristic	Title VI Meal Sites/ Central Kitchens
Food Service Personnel Appear to Be Clean	100
Food Service Personnel Wear Disposable Gloves	78
Food Service Personnel Have Their Hair Restrained (Including Well-Trimmed Moustaches or Beard Guards)	72
Personnel Wash Their Hands Frequently as They Work	77
Smoking Observed in Food Storage, Production, or Service Areas	18
Unweighted Sample Size	**37**

SOURCE: Elderly Nutrition Program Evaluation, Facility Observation survey, weighted tabulations.

percent employees were observed smoking in storage, service, or production areas. Personnel at seventy-seven percent of facilities were observed washing their hands often.

e. Food Sources and Transport of Food Products

About 30 percent of the Title VI kitchens use alternate food sources, and 3 percent used home-canned goods in their programs (not shown). Home-delivered meals were transported from almost all of the Title VI facilities (92 percent). The site inspectors reported that the inside of the home-delivered meal containers was clean at 90 percent of these facilities. They also reported that the inside of the congregate meal containers was clean in all of the inspected kitchens.

f. Health Department and Fire Department Inspections

Ninety-three percent of the Title VI kitchens had been inspected by either the local health department or another agency within the past year (Table IV.33). However, only half of the Title VI kitchens that had been inspected (47 percent of all facilities) had a current inspection certificate available for the site observers to review. In most of the facilities that made their most recent inspection certificate available, interviewers could identify the rating. Although the sample size was small, and caution should be exercised in interpreting these results, a relatively high percentage of kitchens received low scores during their recent inspections (27 percent of facilities that provided certificates scored below 90 on a 100-point scale; 5 percent scored below 80 percent).

In addition, about 60 percent of the Title VI facilities that were inspected (56 percent of all facilities) had deficiencies noted in their last three inspections (Table IV.33). Only 67 percent of the kitchens with deficiencies (38 percent of all facilities) indicated that action had been taken to remedy these deficiencies. When remedial action had been taken, only 56 percent of those taking action (21 percent of all facilities) had reported the action to the inspecting agency.

TABLE IV.33

SAFETY AND SANITATION INSPECTIONS
(Percentages)

Characteristic	Title VI Meal Sites/ Central Kitchens
Health Inspection	
Food Service Facility Was Inspected Within Past Year by Local Health Department[a]	93
Current Inspection Certificate Is Available	47
If on a 100-Point Scale, Rating Received[b]	
95 to 100 (highest range)	26
90 to 94	47
80 to 89	22
Less than 80 (lowest score)	5
Deficiencies Found in the Past Three Years	56
Facility Has Taken Remedial Action	38
Remedial Action Was Reported to Inspecting Agency	21
Fire Inspection	
Facility Inspected Within Past Year by Local Fire Department	63
Current Inspection Certificate Is Posted or Otherwise Available	16
Unweighted Sample Size	**38**

SOURCE: Elderly Nutrition Program Evaluation, Facility Observation survey, weighted tabulations.

[a]Percentage relates to kitchens that answered affirmatively either to a question about whether the food service facility had been inspected within the past year by the local health department or to a question about whether the food service facility had been inspected in the past year by another agency.

[b]Calculated only for those facilities that made certificate available and whose rating used 100-point scale.

Sixty-three percent of the Title VI kitchens had been inspected by the fire department within the past year. Only 26 percent of the inspected kitchens (16 percent of all facilities) had a current inspection certificate posted.

g. Incidents of Food-Borne Illness

A major outcome of interest is the prevalence of food-borne illness. No ITOs reported incidents of food-borne illnesses in the past three years in their geographic area. This might seem like an excellent indicator of the prevention of food-borne illnesses at Title VI sites, but the dispersion of the rural clientele makes awareness of possible incidents unlikely. Given the underreporting that occurs even in more densely populated areas, it is possible that instances of food-borne illnesses have occurred at Title VI ENP sites and were missed by the survey.

h. Summary

Title VI kitchens appear to have high potential for possible food safety and sanitation problems, as evidenced by low levels of temperature monitoring, few written policies and standards, and a low level of activity to remedy deficiencies noted in inspection reports. Increased training of Title VI kitchen management and personnel may be desirable to help increase their awareness of the need for consistent, ongoing efforts to ensure food safety through effective sanitation practices.

G. COST OF TITLE VI MEALS

1. Methodology

Two main principles guided the development of the methodology for the cost data collection process. First, the process required a random sample of projects from which to collect the data. Second, the data collection methodologies at each site had to be consistent to provide uniform data, so that costs across sites could be averaged. The sampling methods are discussed in detail in Volume III, Appendix A. Here, we provide a brief overview of the data collection process.

In collecting the cost data, we tried to achieve uniform cost measures for all nutrition projects in the sample. Thus, we requested a standard set of information on the resources that projects used at the individual sites in preparing and delivering meals. ENP nutrition project staff recorded these data on cost data collection instruments, which were developed for the ENP evaluation and mailed to sites. In addition to other items, these instruments requested information on such meal components as the staff and volunteer time used to plan, cook, serve, and deliver the meals and each staff member's wages and fringe benefits; the cost of the food ingredients or payments made to vendors for already prepared meals; the cost of supplies and equipment used in preparing meals; and the number of meals served or delivered by the selected sites in an average week.[9]

The data forms filled out by the projects were then mailed or faxed to Mathematica Policy Research, Inc., where they were reviewed by analysts who made follow-up calls as necessary to clarify any possible problems.[10] With these detailed data for each project, the analysts could be reasonably confident that consistent data had been collected for each project. Then, using the costs of these meal components, the analysts calculated (or "built up") the total cost of preparing and serving (or delivering) meals at a particular project. The cost per meal for a particular site was calculated by dividing the weekly meal program costs by the number of meals served (or delivered) in the same week.

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[9]Nutrition projects do not always allocate nonlabor costs to individual sites. Thus, although the cost data collection focused on a particular congregate and home-delivered site at each project, the nonlabor costs were most often collected for the overall nutrition project and allocated to the site in proportion to meals it served or delivered.

[10]The analysts who performed this work were individuals with master's degrees with several years of policy analysis experience.

2. Findings

An average congregate meal served by a Title VI nutrition project costs $6.19, which includes the value of donations and volunteer labor not charged to the projects (Table IV.34).[11] Almost one-half (45 percent) of this cost stemmed from the salary paid to site and project staff. An additional four percent of costs resulted from the value of volunteer labor used by the project to provide program meals. Payments for food were the next largest component of the average congregate meal cost, contributing $1.74 (or 28 percent) to the total cost per meal.[12]

On average, a home-delivered meal costs $.99 more than a congregate meal (the total monetary and nonmonetary cost is $7.18). Much of this difference in cost stemmed from the salaries of staff who were employed to deliver meals to homes. The labor cost per meal to transport a home-delivered meal to a home was $.91 (not shown). The congregate programs did not incur this cost. The cost of other meal production and service components was roughly equal for the two meal programs.

These averages should be interpreted with caution, for two reasons. First, the sample sizes for Title VI projects were small. Only 39 projects providing congregate meals and 41 projects providing home-delivered meals completed the cost data. Thus, as shown by a comparison of mean and median meal costs, a few projects had large influences on the average meal costs. For example, the median total cost (including donations) of a home-delivered meal is $6.13, which is $1.05 lower than the average meal cost of $7.18 (Table IV.34). Thus, several projects with high meal costs drove up the average cost per meal. Second, meal costs for Title VI programs varied widely across the different projects. In our analysis, the total monetary cost plus donations of a Title VI congregate meal ranged from $2.76 to $19.21. Table IV.35 displays the distribution of average costs for congregate and home-delivered meals.

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[11]These are weighted averages. For a discussion of the weighting scheme, see Volume III, Appendix C.

[12]Payments for food include payments for food ingredients purchased by projects to prepare meals and payments made to caterers for already prepared meals.

TABLE IV.34

AVERAGE COST OF TITLE VI NUTRITION PROJECT MEAL COMPONENTS
(In Dollars)

	Title VI Congregate Meals	Title VI Home-Delivered Meals
Monetary Costs	$5.78	$6.78
Salary of paid staff	$2.80	$3.55
Payments for food	$1.74	$1.83
Utilities	$.54	$.51
Space	$.14	$.13
Supplies	$.13	$.13
Equipment	$.41	$.60
Other nonlabor costs	$.02	$.04
Value of Donations	$.41	$.40
Volunteer labor	$.22	$.23
USDA commodities	$.04	$.02
Other donated food/supplies	$.15	$.15
Average Monetary Costs Plus Value of Donations	$6.19	$7.18
Median Monetary Costs Plus Value of Donations	$5.65	$6.13
Unweighted Sample Size	**39**	**41**

SOURCE: Elderly Nutrition Program Evaluation, cost data collection instruments, weighted tabulations.

USDA = U.S. Department of Agriculture.

TABLE IV.35

DISTRIBUTION OF TITLE VI MEAL COSTS
(Percentages)

	Congregate Meals	Home-Delivered Meals
Cost Per Meal[a]		
$3.00 or less	2.2	0.0
$3.01 to $3.50	11.2	0.0
$3.51 to $4.00	10.7	2.5
$4.01 to $4.50	0.0	0.0
$4.51 to $5.00	3.2	14.4
$5.01 to $5.50	17.5	11.0
$5.51 to $6.00	13.2	22.5
$6.01 to $6.50	10.1	14.7
$6.51 to $7.00	2.5	2.6
$7.01 to $8.00	2.9	8.1
More than $8.00	26.5	24.2
Average Cost	6.19	7.18
Median Cost	5.65	6.13
Unweighted Sample Size	**39**	**41**

SOURCE: Elderly Nutrition Program Evaluation, cost data collection instruments, weighted tabulations.

[a]Includes all paid and nonpaid costs, including the value of volunteer labor and donations.

We did not conduct subanalyses of Title VI meal costs, because the Title VI projects are similar for most characteristics. Most of the 39 congregate and 41 home-delivered Title VI meal projects that completed the cost data collection instruments prepared their meals on site. Only seven projects purchased their meals from a vendor. In addition, a majority (54 percent) were located in the western part of the country. All of the Title VI projects are in rural locations and serve 1,000 or fewer meals per week.

Title VI projects report that, of the two kinds of special meals they offer (ethnic and modified meals), only ethnic meals cost less than regular meals to produce and serve (Table IV.36). Of the 55 percent of congregate and 52 percent of home-delivered programs providing ethnic and regular meals, approximately half reported that ethnic meals cost less than regular meals. On average, the cost of an ethnic meal was about 90 percent of the cost of a regular meal. Modified meals did not usually cost less than a regular meal. On average, modified meals cost 13 to 21 percent more than a regular meal.

H. FUNDING AMOUNTS AND SOURCES

The available information makes it clear that Title VI operations, especially the home-delivered component, are considerably less leveraged than Title III ones. (It should be noted that, unlike the Title III program for states, Title VI does not require matching funds from the tribe receiving a Title VI grant.) Title VI is the primary source of funding for Title VI ENP meals. Sixty-one percent of resources used to provide congregate meals and 73 percent of resources used to provide home-delivered meals come from Title VI grants (Table IV.37). The second most important source is tribal, state, local, and private funds (principally tribal funds), which account for 14 percent of congregate meal costs and 6 percent of home-delivered meal costs. USDA cash in lieu of commodities account for approximately 10 percent of meal costs. Participant contributions and the value of volunteer labor are other funding sources. These sources contribute small proportions toward overall funding, however.

TABLE IV.36

TITLE VI NUTRITION PROJECT RESPONDENTS' PERCEPTIONS OF THE COST OF SPECIAL MEALS, RELATIVE TO COST OF REGULAR MEALS

	Title VI Congregate Meals	Title VI Home-Delivered Meals
Projects Serving Ethnic and Regular Meals		
Percentage Providing Both Meals	55	52
Perceptions of Ethnic Meal Cost Relative to Regular Meal Cost		
More	24	23
Less	52	50
Same	24	27
Average Percentage of Regular Meal Cost	88	88
Projects Serving Modified and Regular Meals[a]		
Percentage Providing Both Meals	62	68
Perceptions of Modified Meal Cost Relative to Regular Meal Cost		
More	55	53
Less	5	8
Same	39	39
Average Percentage of Regular Meal Cost	121	113
Unweighted Sample Size	**67**	**67**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

[a]Responses are only for projects stating that they served modified meals. Modified meals include low-salt, low-sugar, low-fat, or controlled-calorie meals. Therapeutic meals for people with conditions such as obesity, heart disease, diabetes, or hypertension are not included.

TABLE IV.37

SOURCES OF FUNDING FOR TITLE VI MEALS
(Dollars Per Meal, Including Donated Costs)

	Congregate		Home-Delivered	
Title VI	$3.76	(61%)	$5.18	(73%)
Other Federal Funds	.30	(5)	.35	(5)
USDA Cash in Lieu of Commodities	.59	(10)	.59	(8)
USDA Commodities	.04	(1)	.02	(*)
Participant Contributions	.24	(4)	.24	(3)
Tribal, State, Local, and Private Funds	.89	(14)	.42	(6)
Volunteer Labor	.22	(4)	.23	(3)
Other Local In-Kind Contributions	.15	(2)	.15	(2)
Total	**6.19**	**(100%)**	**7.18**	**(100%)**

* = Less than 0.5 percent.

NOTES: Line 2: Assumed to be the same as for Title III, since no reliable independent information was available for Title VI, and the cash in lieu of commodities program works essentially the same under both titles.

Lines 4, 7, and 8: Based on the evaluation's cost analysis data, as reported in Chapter IV, Section G.

Line 5: Participant contributions were computed by dividing "program income," as reported in the AoA "Native American Elders Report; 1993" by the total number of meals from the same report. Separate data for the congregate and home-delivered programs were not available; as an approximation, they were assumed to be the same.

Lines 1, 3, and 6: The sum of these lines was computed as a residual, by subtracting the other lines from the per-meal costs estimated in Chapter IV, Section G. Once this total residual was computed, it was allocated among its three component categories in proportion to the amounts from these sources reported by projects in the project survey.

I. WAITING LISTS

Twenty percent of the Title VI nutrition projects that arrange or provide home-delivered meals reported having a waiting list for potential participants in the home-delivered meal program (Table IV.38). Projects that maintain waiting lists reported a median length of time on the list of two months.

Waiting lists are less common for congregate meal programs. Ten percent of the nutrition projects arranging or providing congregate meals reported a waiting list (Table IV.38). For projects maintaining waiting lists, the median number of elders on the list exceeds 100 percent of the average number of congregate meals served daily. Nutrition projects that maintain waiting lists reported that the median length of time on the waiting list is 0.2 months, or about one week.

TABLE IV.38

WAITING LISTS FOR PARTICIPATION IN TITLE VI PROGRAMS, AS REPORTED BY NUTRITION PROJECTS
(Percentages, Unless Stated Otherwise)

	Congregate Meal Service	Home-Delivered Meal Service	Other Services
Project Maintains Waiting List	10	20	15
If List Maintained, Number on List as a Percentage of Average Daily Meals Served[a]			
Less than 5 percent	0.0	0.0	--
6 to 10 percent	0.0	11	--
11 to 20 percent	0.0	5	--
21 to 40 percent	0.0	17	--
41 to 100 percent	39	20	--
More than 100 percent	61	48	--
If List Maintained, Mean Length of Time on List (Months)	3.7	3.7	1.1
If List Maintained, Median Length of Time on List (Months)	0.2	2.0	0.8
Unweighted Sample Size	**66**	**67**	**68**

SOURCE: Elderly Nutrition Program Evaluation, Title VI Nutrition Project survey, weighted tabulations.

[a]Number on waiting list as a percentage of average daily meals served, calculated separately for congregate and home-delivered meals, is constructed by dividing the reported number of individuals on the waiting list by the reported number of meals served in a year and multiplying by 260 (= 52 × 5). This breakdown could not be constructed for other services because there was no measure of number of participants or intensity of services.

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