Free Executive Summary

The Role of Nutrition in Maintaining Health in the Nation's Elderly: Evaluating Coverage of Nutrition Services for the Medicare Population

Committee on Nutrition Services for Medicare Beneficiaries, Food and Nutrition Board

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Malnutrition and obesity are both common among Americans over age 65. There are also a host of other medical conditions from which older people and other Medicare beneficiaries suffer that could be improved with appropriate nutritional intervention. Despite that, access to a nutrition professional is very limited. Do nutrition services benefit older people in terms of morbidity, mortality, or quality of life?Which health professionals are best qualified to provide such services?What would be the cost to Medicare of such services? Would the cost be offset by reduced illness in this population?This book addresses these questions, provides recommendations for nutrition services for the elderly, and considers how the coverage policy should be approached and practiced. The book discusses the role of nutrition therapy in the management of a number of diseases. It also examines what the elderly receive in the way of nutrition services along the continuum of care settings and addresses the areas of expertise needed by health professionals to provide appropriate nutrition services and therapy.

Executive Summary

Poor nutrition is a major problem in older Americans. Inadequate intake affects approximately 37 to 40 percent of community-dwelling individuals over 65 years of age (Ryan et al., 1992). In addition, the vast majority of older Americans have chronic conditions in which nutrition interventions have been demonstrated to be effective in improving health and quality-of-life outcomes. Eighty-seven percent of older Americans have either diabetes, hypertension, dyslipidemia, or a combination of these chronic diseases (NCHS, 1997). These conditions all have adverse outcomes that can be ameliorated or reduced with appropriate nutrition intervention. Yet for the vast majority of Medicare beneficiaries, nutrition therapy by a nutrition professional is not a covered benefit. Although varying amounts of basic nutrition services are included in reimbursement payments in hospital, home health, and post-acute care settings, services have been largely inconsistent or inadequate to meet the needs of the growing elderly population.

The Medicare program has traditionally not covered preventive services. Nutrition therapy in the ambulatory or outpatient setting has been considered a preventive service and, therefore, given its original intent to provide only reasonable and necessary services for the diagnosis and treatment of disease, Medicare has explicitly not covered nutrition therapy, or any other type of health education or counseling. In 1980 Congress approved its first exception to the exclusion of preventive services by approving coverage for the pneumococcal pneumonia vaccine. In 1997, recognizing the need for education and counseling in the man-

agement of diabetes, Congress approved Medicare coverage for diabetes self-management training as part of the Balanced Budget Act.

In addition to the recent coverage for diabetes education, the Balanced Budget Act of 1997 also required that the Department of Health and Human Services contract with the National Academy of Sciences, Institute of Medicine to examine the benefits and costs associated with extending Medicare coverage for certain preventive and other services. The services specifically targeted for examination included screening for skin cancer; medically necessary dental services; elimination of time restrictions on coverage for immunosuppressive drugs after transplants; routine patient care for beneficiaries enrolled in approved clinical trials; and nutrition therapy, including the services of a registered dietitian. This report addresses the benefits and costs associated with extending Medicare coverage specifically for nutrition therapy.

THE COMMITTEE AND ITS CHARGE

In early 1999, the Institute of Medicine appointed an expert committee charged with the task of analyzing available information, hearing from other experts, and developing recommendations regarding technical and policy aspects of the provision of comprehensive nutrition services, delineated as follows:

- coverage of nutrition services provided by registered dietitians and other health care practitioners for inpatient medically necessary parenteral and enteral nutrition therapy;
- coverage of nutrition services provided by registered dietitians and other health care practitioners for patients in home health and skilled nursing facility settings; and
- coverage of nutrition services provided by registered dietitians and other trained health care practitioners in individual counseling and group settings, including both primary and secondary preventive services.

In addition, the committee was charged with evaluating, to the extent data were available, the cost and benefit of such services to Medicare beneficiaries as well as the research issues needed to provide additional understanding of the relationship between provision of quality nutrition services and quality-of-life outcomes.

The expert committee was composed of 14 individuals and represented the areas of geriatric medicine, clinical nutrition and metabolism, epidemiology, clinical dietetics, nursing, evidence-based medicine, outpatient counseling, nutrition services management, nutrition support,

health economics, and health policy. Committee members held a variety of science and professional degrees and were representative of a geographical cross section of the nation.

Although the majority of committee members were medical or nutrition professionals, in order to avoid a potential conflict of interest, committee members were limited to those who were employed in areas that would not be directly affected by any changes in legislation with regard to nutrition services (i.e., management, research, education). One member of the committee had experience in, but was not primarily responsible for, the evaluation of reimbursement for nutrition services within the professional association, the American Dietetic Association. On the other end of the spectrum, another member had no medical or nutrition background but rather had experience in legislation associated with Medicare policy and its statutory limitations.

For the purposes of this report, the committee considered the term "nutrition services" to consist of two tiers. The first tier of services is *basic nutrition education or advice*, which is generally brief, informal, and typically not the focal reason for the health care encounter. More often than not, its aim is to promote general health and/or the primary prevention of chronic diseases or conditions. The second tier of nutrition services is the provision of *nutrition therapy*, which includes individualized assessment of nutritional status; evaluation of nutritional needs; intervention, which ranges from counseling on diet prescriptions to the provision of enteral (tube feeding) and parenteral (intravenous feeding) nutrition; and follow-up care as appropriate. Nutrition therapy generally addresses nutrition interventions specific to the management or treatment of certain existing conditions and is usually individualized to meet the food habits of the patient.

Although the population of Medicare beneficiaries includes individuals younger than 65 years of age through its coverage of the disabled and those with end-stage renal disease, the focus of this report is the examination of medical evidence for people age 65 and older. However, because clinical studies focusing solely on individuals older than 65 are limited, most of the evidence examined to evaluate the extent to which nutrition therapy affects outcome included studies conducted with subjects or patients of younger ages. Renal disease has been included in this review, but with a primary focus on pre-end-stage disease. This focus was taken given the available data, which suggested that nutrition therapy could slow the progression of pre-end-stage disease and that Medicare coverage for those with renal disease now begins only when an individual is classified as having "end-stage disease."

The Committee's Approach

In approaching the charge to the committee, three distinct questions needed to be systematically addressed. The first question was—Is there evidence that the provision of nutrition services is of benefit to individuals in terms of morbidity, mortality, or quality of life? Approximately two-thirds of the committee's effort was spent in this initial phase. In gathering available evidence, systematic searches of online databases were conducted and the committee reviewed relevant medical literature with a focus on original research and systematic reviews. This literature was evaluated and categorized in terms of types of studies and preponderance of the evidence that indicated specific effects of nutrition therapy for each condition evaluated.

The committee also sought out opinions from experts in various fields. A workshop was held at which invited professionals were asked to present on requested topics and engage in discussion with the committee regarding various aspects of this report. Organizations were also contacted and invited to give both oral and written testimony. In addition, consultants were used for several fields in order to augment the committee's expertise in the areas of cancer, osteoporosis, renal disease, and heart failure. The names of all workshop speakers, organizations contacted, and consultants to the committee can be found in Appendix C.

For conditions where documentation was found to support nutrition intervention, a second question asked—Specifically, to what extent are registered dietitians, as well as other health care professionals, qualified by training and credentials to provide such services? Credentialing agencies for various health professionals involved in nutrition care were contacted for professional education and training qualifications. Evidence for nutrition interventions resulting in positive outcomes was evaluated with regard to type of health provider administering the nutrition intervention. For most conditions, the types of individuals conducting study interventions were not uniform. In the studies reviewed, although registered dietitians most often provided the nutrition-based therapy, in some studies other personnel administered the intervention evaluated, and many studies did not describe who specifically provided the intervention.

The final question to be answered was—What are the costs and possible offsets for the provision of such services? The Lewin Group, a quantitative analysis consulting firm in the Washington, D.C. area, assisted in the analysis of estimated overall costs to the Medicare program after being given the committee's recommendations on which conditions should be covered and what assumptions the analyses should be based upon. The findings of the committee with regard to the three questions follow.

NUTRITION SERVICES AND TRENDS THAT INFLUENCE THE DELIVERY OF SERVICES

Health care trends have had a significant impact on the delivery of nutrition services to Medicare beneficiaries. Nutrition professionals historically have been available primarily to the inpatient hospital population, where length of stay allowed some degree of provision of nutrition therapy. In these traditional settings, outpatient clinics were maintained as a service to the hospital community and staffed by inpatient departments. The shift from traditionally delivered inpatient care to ambulatory care has reduced the number of hospital beds and increased the acuity level of patients hospitalized. Shorter stays have reduced or eliminated the ability to provide in-depth nutrition counseling during hospitalization. Cost centers without revenue streams, such as routine nutrition counseling, within the hospital have been eliminated. This has resulted in decreased availability of continued nutrition therapy and monitoring as an ambulatory service of the hospital. Although the trends in health care have led to these changes in the availability of services, the change in practice setting is not necessarily a problem given that nutrition counseling, for many reasons, is likely to be more effective in the ambulatory or home health setting than in the complex environment of today's hospitals. The changes in where the service of nutrition therapy is provided and how it is financed however, have led to significant barriers to access for many Medicare beneficiaries.

NUTRITIONAL HEALTH IN THE OLDER PERSON

In reviewing the importance of nutrition to the health of older Americans, both malnutrition and the role of nutrition in the management of health conditions must be considered. As a population, older adults are more likely than younger ones to have a variety of chronic conditions and functional impairments that may interfere with the maintenance of good nutritional status. In turn, lack of attention to dietary intake and poor nutritional status can impact the progression of many chronic diseases and contribute to declining health.

Malnutrition as a term is defined more specifically by nutrition professionals as *poor nutrition*; thus, it encompasses not only inadequate intake (e.g., lack of adequate calories, protein, and vitamins), but also excess intake of nutrients (e.g., obesity or conditions caused by taking too much of a nutrient, such as hypercholesterolemia or hypervitaminosis).

Obesity, a condition of overnutrition, is the most common nutritional disorder in the U.S. population and in the elderly. In the older population, obesity often occurs linked with other clinical conditions such as hyper-

tension, diabetes, and dyslipidemia. In all of these conditions, the treatment of obesity in itself can produce improvements in diagnosis-specific outcomes. However, in older persons, it has been demonstrated that obesity or excess body fat alone does not necessarily predict mortality and, indeed, may even be protective against early death. For these reasons, the committee felt that generalizations regarding weight reduction in the older population should be individualized and would best be addressed only as it pertained to other specific conditions examined in this report.

Undernutrition, although much less common than obesity, can be of significant prognostic importance among older adults. Among hospitalized and nursing home patients, undernutrition is especially prevalent. Many older adults are admitted to hospitals already undernourished; others become undernourished during hospitalization as a result of poor nutritional intake and higher-than-normal energy requirements. The committee found supporting, but limited, data showing that outcomes were improved by nutrition therapy in the acute care setting. The absence of data likely reflects the short lengths of hospital stays, which preclude appropriate efforts to intervene. Nonetheless, the assessment of dietary intake and the implementation of interventions in such settings are encouraged, when possible, if only to prevent further deterioration in the patient's nutritional status and to serve as a baseline for interventions to be initiated in other settings.

In the nursing home setting, undernutrition has received widespread attention and is particularly complicated. When problems such as chronic disease, multiple medications, depression, functional limitations, limited cognitive ability, and self-feeding deficits are superimposed on dependence on institutionalized food service and staffing issues, overt undernutrition is likely to occur.

In considering the provision of nutrition therapy across the continuum of care, the committee examined evidence for specific diseases and conditions that frequently impact Medicare beneficiaries and produce significant morbidity and mortality, and for which nutrition interventions have generally been recommended. In addition, nutrition services in each of the following distinct patient care settings were evaluated: acute care, short-stay facilities (hospitals); ambulatory services (outpatient); home care; and skilled nursing and long-term care facilities.

FINDINGS AND RECOMMENDATIONS FOR MEDICARE COVERAGE OF NUTRITION THERAPY

Recommendation 1. Based on the high prevalence of individuals with conditions for which nutrition therapy was found to be

of benefit, nutrition therapy, upon referral by a physician, should be a reimbursable benefit for Medicare beneficiaries.

Although few randomized clinical trials have directly examined the impact of nutrition therapy, there is consistent evidence from limited data to indicate that nutrition therapy is effective as part of a comprehensive approach to the management and treatment of the following conditions: dyslipidemia, hypertension, heart failure, diabetes, and kidney failure. Conditions evaluated for which data at this time are lacking or insufficient to support a recommendation for nutrition therapy included cancer and osteoporosis. In the case of osteoporosis, although nutrition intervention through calcium and vitamin D supplementation has clearly been found to improve health outcomes, there is a lack of available evidence to suggest that nutrition therapy, as opposed to basic nutrition education from various health care professionals, would be more effective. For cancer treatment, however, with the exception of the role of enteral and parenteral nutrition therapy, a preliminary review of the literature revealed insufficient data at this time regarding the role of nutrition therapy, specifically nutrition counseling, in the treatment of cancer and the management of its symptoms. For this reason, only evidence pertaining to enteral and parenteral nutrition therapy in the management and treatment of cancer was extensively reviewed.

Summaries of the evidence for conditions which were extensively reviewed can be found in Box ES.1. In addition, a summary of the types of evidence available for these conditions can be found in Table ES.1. It was beyond the scope of this report to examine all possible medical conditions for which nutrition therapy may be indicated. There are likely other conditions that were not specifically reviewed but may warrant coverage. Likewise, medical conditions which individually might not warrant nutrition therapy may well require intervention from a trained nutrition professional when these conditions occur in combination.

An underlying factor for the recommendation that coverage be included for nutrition therapy upon physician referral for any condition, including those not reviewed in this report, is that 87 percent of Medicare beneficiaries over 65 years of age have diabetes, hypertension, and/or dyslipidemia alone. This estimate does not include those individuals with heart failure, chronic renal insufficiency, or undernutrition. Thus, it may be administratively more efficient for the Health Care Financing Administration (HCFA) (the unit of the Department of Health and Human Services responsible for administering the Medicare program) to base coverage on physician referral rather than on specific diagnoses. In addition, while physicians may not necessarily be trained in nutrition therapy, they are trained to gauge which conditions warrant referral to a nutrition pro-

BOX ES.1 Summary of Evidence Supporting the Use of Nutrition Therapy in Selected Prevalent Diagnoses

Dyslipidemia Substantial evidence from observational studies and from randomized trials supports the use of nutrition therapy as a means to improve lipid profiles and thereby prevent cardiovascular disease in the elderly. Furthermore, numerous professional organizations including the American Heart Association, the National Cholesterol Education Program of the National Heart, Lung, and Blood Institute, and the Second Joint Task Force of European and Other Societies on Coronary Prevention advocate nutrition therapy as an integral part of medical therapy for persons with dyslipidemia. Recommendations for nutrition therapy extend to those individuals not on cholesterol-lowering therapy as well as persons on medications such as statins.

Hypertension Available evidence from several trials conducted in the elderly and from numerous studies conducted in other populations strongly supports nutrition-based therapy as an effective means to reduce blood pressure in older-aged persons with hypertension. At a minimum, such therapy can be an adjuvant to medication. In selected individuals, medication stepdown and potentially medication withdrawal are feasible. Nutrition therapy is recommended as part of the standard of care by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure and the National Heart, Lung, and Blood Institute Working Group report on Hypertension in the Elderly.

Heart Failure Available evidence from several small clinical trials and a few observational studies supports the use of nutrition therapy in the context of multidisciplinary programs. Such programs can prevent readmissions for heart failure, re-

fessional, just as they are trained to recognize any other conditions which require referral for sub-specialty care. Additionally, by basing nutrition therapy on referral from a physician, it will prevent self-referral for conditions for which evidence of efficacy is not available. For these reasons it is recommended to Congress that reimbursement for nutrition therapy be based on physician referral rather than on a specific medical condition.

Recommendations regarding the number of nutrition therapy visits for various conditions, other than for the necessary purpose of producing cost estimates, were not made because it is within the appropriate role of HCFA to establish reasonable limits in accordance with accepted practice.

Recommendation 2. With regard to the selection of health care professionals to provide nutrition therapy, the registered dietitian is currently the single identifiable group with standardized education, clinical training, continuing education, and national credentialing requirements necessary to be directly reimbursed as a provider of nutrition therapy. However, it is rec-

duce subsequent length of stay, and improve functional status and quality of life. Nutrition therapy is recommended as part of the standard of care in guidelines prepared by the American College of Cardiology-American Heart Association and by the Agency for Healthcare Research and Quality.

Diabetes Available evidence from randomized clinical trials, including data in substantial numbers of individuals over the age of 65, supports the use of nutrition therapy as part of the overall multidisciplinary approach to the management of diabetes, which also includes exercise, medications, and blood glucose monitoring. Nutrition therapy is also recommended as part of the standard of care by the American Diabetes Association and the World Health Organization.

Pre-Dialysis Kidney Failure Research findings from a randomized clinical trial and two meta-analyses suggest that nutrition therapy may have a beneficial effect, over the long term, in delaying the progression of kidney disease. A National Institutes of Health consensus conference has recommended nutrition therapy as part of the management for chronic renal insufficiency.

Osteoporosis Enhanced intake of calcium and vitamin D for both the prevention and treatment of osteoporosis in the at-risk elderly population is strongly supported by a considerable body of evidence including multiple randomized controlled trials. Increased calcium and vitamin D intake is recommended as part of the standard of care by the National Osteoporosis Foundation as well as the World Health Organization. Whether or not nutrition therapy by a trained nutritional professional is needed depends on the individual's desired mode of calcium and vitamin D intake, specifically supplements versus foods, as well as other potential nutrient restrictions or unique meal planning circumstances.

ognized that other health care professionals could in the future submit evidence to be evaluated by HCFA for consideration as reimbursable providers.

The congressional language which initiated this study requested not only an analysis of the extent to which nutrition services might be of benefit to Medicare beneficiaries but also "an examination of nutritional services provided by registered dietitians…". Available evidence regarding the education and training of registered dietitians as well as other health professionals needed to adequately provide nutrition services was systematically reviewed (see chapter 13). A summary of this information can be found in Table 13.1. The committee however, found a paucity of literature that compared the roles of specific providers of nutrition services to patient outcome or efficacy of treatment.

The committee determined that in the spectrum of health care settings and patient conditions, two tiers of nutrition services exist. The first tier is basic nutrition education and advice, which is generally provided

TABLE ES.1 Summary of Evidence Supporting the Use of Nutrition Therapy for Medicare Beneficiaries in Specific Conditions or Diseases

Conditions[a]	Types of Evidence					Overall Strength of Evidence Supporting Nutrition Therapy
	Observational Studies[b]	Consensus Document	Systematic Review	Some Clinical Trial Evidence	Extensive Clinical Trial Evidence	
Dyslipidemia	✓	✓	✓		✓	Strongly supportive[c]
Hypertension	✓	✓	✓		✓	Strongly supportive[c]
Heart failure	✓	✓	✓	✓		Supportive[c]
Diabetes	✓	✓	✓		✓	Strongly supportive[c]
Pre-dialysis kidney failure	✓	✓	✓	✓		Supportive[d]
Osteoporosis[e]	✓	✓	✓		✓	Strongly supportive[c]
Undernutrition	✓			✓		Supportive[d]

[a] Conditions listed are those for which evidence supports the use of nutrition therapy. Obesity was evaluated in the context of conditions related to it (dyslipidemia, hypertension and diabetes) rather than as a separate condition.

[b] This category includes case series, case-control studies, cohort studies and nonrandomized trials of nutrition-based therapies including nonhuman studies.

[c] From studies of the elderly as well as studies conducted in broader population age groups.

[d] Predominantly from studies in broad population age groups rather than studies in elderly.

[e] Evidence for the intake of calcium and vitamin D in the prevention and treatment of osteoporosis is strongly supportive. However, at this time it is unclear whether an equivalent and consistent intake of calcium and vitamin D can be achieved through foods as has been demonstrated in trials in which supplements were given.

incidental to other health services. This type of nutrition service, "nutrition education," can generally be provided by most health care professionals who have had basic academic training in food, nutrition, and human physiology (e.g., physicians, nurses, pharmacists). The second tier of nutrition services is nutrition therapy, which involves the secondary and tertiary prevention and treatment of specific diseases or conditions.

The provision of nutrition therapy was found to require significantly more training in food and nutrition science than is commonly provided in typical medical, nursing, pharmacy, or chiropractic education curricula. Nutrition science requires components of biochemistry, biology, medicine, behavioral health, human physiology, genetics, anatomy, psychology, sociology, economics, and anthropology. Food science requires knowledge of food chemistry, food selection, food preparation, food processing, and food economics (see chapter 13). In summary, nutrition therapy involves a comprehensive working knowledge of food composition, food preparation, and nutrition and health sciences, in addition to components of behavior change. This broad knowledge base is necessary to translate complex diet prescriptions into meaningful *individualized* dietary modifications for the layperson.

The committee therefore finds that, with regard to the selection of health care professionals, the registered dietitian is currently the single identifiable group of health care professionals with standardized education, clinical training, continuing education, and national credentialing requirements necessary to be a directly reimbursable provider of nutrition therapy. This recommendation is in line with the U.S. Preventive Services Task Force (1995) rating of professionals to deliver dietary counseling which indicated that, based on available evidence, counseling performed by a trained educator such as a dietitian is more effective than by a primary care clinician.

It is recommended, however, that other health care professionals within certain subspecialty areas of practice may be knowledgeable in particular areas of nutrition intervention through individual training and experience and should be considered for reimbursement on a case-by-case basis. Some health professionals may be knowledgeable with regard to nutrition intervention for specific categories of patients (e.g., certified diabetes educators). These health professionals serve as excellent reinforcers of nutrition interventions and behavior modification following individualized nutrition therapy by a dietitian. While their involvement contributes to the nutritional management of diabetes, it is considered basic nutrition education and should continue to be viewed as incidental to routine medical care and not specifically reimbursable as nutrition therapy.

In addition to providing reimbursable nutrition therapy directly to

clients and patients, a registered dietitian should be involved in educating other members of the health care team regarding nutrition interventions and practical aspects of nutrition care. This is of particular importance in the areas of home care, ambulatory (outpatient) care, and care given in skilled nursing and long-term care facilities, where basic nutrition advice or reinforcement of nutrition plans will likely be provided by other health care professionals.

In the congressional conference report that described the areas to be reviewed by the requested study, the effectiveness of group versus individual counseling was also identified. A lack of scientific data comparing the effectiveness of individual versus group nutrition counseling sessions was apparent. While group education can provide elderly individuals with opportunities for discussion and support, it may be a suboptimal environment for many elderly individuals with learning barriers such as vision or hearing loss. Individualized counseling can better take into account the multiple diagnoses frequently encountered in older individuals when relating dietary interventions, food preferences, life-style, and cultural factors—all of which are important factors in achieving and sustaining dietary changes. For these reasons, it was concluded that at least one session of *individualized* nutrition therapy is necessary and should be included for optimal effectiveness. However, given that learning styles vary among individuals, it may not be possible to generalize as to whether group or individual counseling is more effective in specific disease states for the remainder of the educational process.

Recommendation 3. Reimbursement for enteral and parenteral nutrition-related services in the acute care setting should be continued at the present level. A multidisciplinary approach to the provision of this care is recommended.

The provision of enteral and parenteral nutrition in the acute care setting is currently covered for Medicare beneficiaries as part of the prospective payment system. Medical conditions for which enteral and parenteral nutrition regimes may be warranted were reviewed and it was concluded that their use in preventing complications and overt malnutrition has been shown to be effective for many conditions. A summary of supporting evidence for various conditions can be reviewed in Table ES.2.

The delivery and oversight of enteral and parenteral nutrition therapy is best carried out by a multidisciplinary team including a physician, pharmacist, nurse, and dietitian. Although a multidisciplinary team is optimal, a variety of formal and informal multidisciplinary models have utility, and ultimately the composition and administration should depend on the institutional setting and available resources. However, the

critical involvement of an individual trained in the progression of patients from enteral nutrition to solid food needs to be ensured.

ADMINISTRATIVE RECOMMENDATIONS REGARDING THE PROVISION OF NUTRITION SERVICES

Recommendation 4. HCFA as well as accreditation and licensing groups should reevaluate existing reimbursement systems and regulations for nutrition services along the continuum of care (acute care, ambulatory care, home care, skilled nursing and long-term care settings) to determine the adequacy of care delineated by such standards.

The committee found numerous inconsistencies with regard to regulations and reimbursement systems related to the provision of nutrition services across the continuum of care. The most pronounced inconsistency is the variation in coverage of nutrition services between the acute care inpatient setting and the ambulatory care (outpatient) setting. Patients are often discharged from a short-stay, acute care setting in need of nutrition therapy. However, although nutrition services are part of the bundled payment system in the acute care setting, coverage is no longer available upon discharge to the ambulatory setting. Ironically, it is the ambulatory (outpatient) setting in which patients may benefit most from nutrition counseling. In the home care setting, weak regulations with regard to nutrition therapy result in inadequate services being provided.

HCFA relies on accrediting agencies to enforce standards of nutrition care. Although the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) designates the geriatric population as a high-risk group and has emphasized nutrition in its on-site inspections during the past few years, increased attention still has to be drawn to developing and implementing standards related to the process of assessing the nutritional and functional status of elders as well as identifying and correcting inadequacies of care.

Nutrition services for Medicare beneficiaries in acute care, home care, and long-term care settings are covered largely through bundled payment systems. Reimbursement systems must be strengthened to ensure provision of adequate nutrition care in acute care, home care, dialysis centers, and skilled nursing and long-term care facilities. It is recommended that HCFA as well as accreditation and licensing groups reevaluate all existing reimbursement systems and regulations for nutrition care in acute care, ambulatory care, home care, and long-term care settings. Several areas have been identified that should specifically be addressed and are included in the following recommendations.

TABLE ES.2 Hospital Settings: Evaluation of Nutrition Support Interventions

Intervention	Observational Studies[a]		Consensus Document		Systematic Review	
	GP[b]	Elderly	GP	Elderly	GP	Elderly
Gastrointestinal						
Short bowel						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Fistulas						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Inflammatory bowel disease						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Pancreatitis						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Liver disease						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
HIV/AIDS						
Enteral	✓	–	–	–	–	–
Parenteral	✓	–	–	–	–	–
Cancer Therapy						
Chemotherapy						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Radiation Therapy						
Enteral	✓	–	✓	–	✓	–
Parenteral	✓	–	✓	–	✓	–
Renal Failure						
Acute						
Enteral	–	–	–	–	–	–
Parenteral	✓	–	–	–	–	–
Chronic						
Enteral	✓	–	–	–	–	–
Parenteral	✓	–	–	–	–	–
Critical Illness						
Enteral	✓	–	✓	–	–	–
Parenteral	✓	–	✓	–	✓	–
Perioperative						
Abdominal						
Enteral	–	✓	–	–	✓	–
Parenteral	✓	✓	–	–	✓	–
Hip fracture						
Enteral	–	✓	–	–	–	–
Parenteral	–	–	–	–	–	–

[a] This category includes case series, case-control studies, cohort studies and nonrandomized trials of nutrition-based therapies including nonhuman studies.

[b] GP = general population.

Some Clinical Trial Evidence		Extensive Clinical Trial Evidence		Overall Strength of Evidence Supporting Nutrition Therapy for Elderly Persons
GP	Elderly	GP	Elderly	
–	–	–	–	Efficacious
–	–	–	–	Efficacious
–	–	–	–	Insufficient data
–	–	–	–	Efficacious
✓	–	–	–	Insufficient data
✓	–	–	–	Not primary therapy
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Not supported
✓	–	–	–	Not supported
✓	–	–	–	Not supported
✓	–	–	–	Not supported
–	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
–	–	–	–	Insufficient data
–	–	–	–	Not supported
✓	–	–	–	Insufficient data
✓	–	–	–	Insufficient data
✓	–	–	–	Selected efficacy
✓	–	–	–	Selected efficacy
–	✓	–	–	Efficacious
–	–	–	–	Insufficient data

Screening for Malnutrition in Acute Care Settings

Recommendation 4.1. While screening for nutrition risk in the acute care setting is crucial, the JCAHO requirement that nutrition screening be completed within 24 hours of admission is not evidence-based and may produce inaccurate and misleading results. It is recommended that validation of nutrition screening methodologies as well as the optimal timing of nutrition screening be reviewed.

Although the committee recognizes that the optimal method of identification of undernutrition in the hospitalized older patient has not been determined, the current JCAHO requirement of nutrition screening within 24 hours of admission to a hospital lacks sensitivity and specificity. Though screening within the first 24 hours of admission may help identify older persons with undernutrition prior to hospitalization, the medical instability of these patients precludes an accurate assessment of how well they will be able to meet their nutritional needs in the hospital. Undernutrition indicators, when available in this time frame, may be altered by acute illness and hence may be inaccurate. Moreover, the acute illness or procedure precipitating hospitalization may result in a transient inability to eat.

Screening within 24 hours of hospital admission, when accomplished, uses resources which may be better utilized helping elderly patients select food they can eat, helping them to eat, and monitoring food intake. In addition, with decreased lengths of stay in acute care settings, patients found to be at risk for malnutrition are often discharged before interventions to improve nutritional status can take place. The most appropriate and clinically useful method of nutritional screening of hospitalized older persons remains an unanswered question and should be a high priority for further research.

Provision of Nutrition Services in the Home Care Setting

Recommendation 4.2. The availability of nutrition services should be improved in the home health care setting. Both types of nutrition services are needed in this setting: nutrition education and nutrition therapy. A registered dietitian should be available to serve as a consultant to health professionals providing basic nutrition education and follow-up, as well as to provide nutrition therapy, when indicated, directly to Medicare beneficiaries being cared for in a home setting.

Medicare beneficiaries are often discharged from hospitals to home care settings with, or at high risk for, overt malnutrition. Yet there is currently no HCFA regulation that requires a nutrition professional to participate in the nutritional management of homebound patients. The adequate provision of services and the staffing of appropriately credentialed nutrition professionals in home care are essential for the training and education of home health nurses and nurses aides so that they may adequately provide appropriate basic nutrition screening and other services. In addition, nutrition professionals should provide nutrition therapy directly to homebound patients when indicated.

Enteral and Parenteral Nutrition in the Ambulatory Care and Home Health Care Settings

Recommendation 4.3. In ambulatory and home care settings, the regulation that excludes coverage for enteral and parenteral nutrition if the gut functions within the next 90 days needs to be reevaluated.

The committee identified a major gap in the coverage of enteral and parenteral nutrition for undernourished ambulatory and home care patients. The current regulation, which excludes coverage for enteral and parenteral nutrition unless the gut is expected to be dysfunctional for at least 90 days, needs to be reevaluated. To avoid the complications of extended semistarvation and possible rehospitalization, reimbursement for enteral or parenteral nutrition in selected Medicare beneficiaries who would otherwise be unable to eat or to assimilate adequate nutrition due to gastrointestinal dysfunction or neurological impairment for longer than 7 days, must be evaluated as a prudent, potentially cost-saving, alternative. Patients who are already malnourished or highly stressed due to infection or response to trauma may not even tolerate this duration of starvation or semistarvation.

In addition, monitoring of patients while on enteral and parenteral nutrition regimes is crucial to avoid both the under- and the overuse of this type of expensive therapy. The registered dietitian is an integral member of the multidisciplinary team and should be involved in the transition of feeding from enteral and parenteral therapies to oral or other modalities, when appropriate or indicated by the referring physician.

Nutrition Services in Skilled Nursing and Long-Term Care Facilities

Recommendation 4.4. HCFA, as well as accrediting and licensing agencies, should improve requirements and standards for food and nutrition services in skilled nursing and long-term care facilities.

As Medicare shifts to a prospective payment system for skilled nursing and long-term care facilities, the nutrition services provided must not be compromised, but should be improved beyond the current pattern of practice. Some states require that long-term care facilities employ dietitians for so little time (8 hours per month) that little can be accomplished when nutrition problems are identified. Staffing must be adequate, and staff members should be well trained and professionally supervised by nutrition professionals so that patients are fed sensitively and appropriately. Efforts to improve quality of care should be aimed at improving staffing patterns, the quality of food services, the incorporation of appropriate feeding techniques into patient services, and the education and training of staff on feeding techniques for patients with functional limitations. Nutrition professionals should be available to educate and train nursing staff and aides on the prevention, detection, and treatment of malnutrition in elderly patients. In addition, registered dietitians, along with other members of the multidisciplinary team, should also be available for the provision and monitoring of enteral and parenteral nutrition regimes.

Research Agenda

Recommendation 4.5. Federal agencies such as the National Institute on Aging, the Agency for Healthcare Research and Quality, and HCFA should pursue a research agenda in the area of nutrition in the older person.

Throughout this study, the committee found a paucity of usable data with regard to nutritional status of the older person, particularly in the area of evaluating the success of interventions with regard to treatment of nutritionally related multiple diseases and conditions. In some instances, issues had not been studied, and in others, previously conducted research did not provide definitive answers. The committee identified numerous areas for research, which can be found at the end of relevant chapters of this report.

ECONOMIC POLICY ANALYSIS

Cost to the Medicare program of expanded coverage for nutrition therapy will be directly determined by the specific design of the reimbursement benefit, patient demand, and other factors. Forecasts of these costs are thus imprecise given currently available data. However, because of the comparatively low treatment costs and ancillary benefits associated with nutrition therapy, expanded coverage will improve the quality of care and is likely to be a valuable and efficient use of Medicare resources.

The committee's approach to cost estimation used generic practices consistent with the Congressional Budget Office process (e.g., not discounting estimates to present value). A more detailed description of the cost estimate process is provided in chapter 14. Data from other cost studies, current accepted practice guidelines, clinical studies, and Medicare cost data were used in the cost estimates. Previous studies show that from 5 to 20 percent of beneficiaries would likely use a nutrition therapy service if it were a covered benefit. The Medicare portion of estimated charges for coverage of nutrition therapy during the 5-year period, 2000 to 2004, is $1.43 billion. However, due to uncertainty about the actual utilization of a nutrition therapy benefit, two additional scenarios were calculated to reflect a low utilization estimate and a high utilization estimate. The range is from $873 million (low utilization scenario) to $2.63 billion (high utilization scenario) with diagnosis-specific utilization rates ranging from 5 to 30 percent. Some of these costs will be passed on to Medicare beneficiaries through associated premium increases.

Expanded coverage for nutrition therapy is likely to generate economically significant benefits to beneficiaries, and in the short term to the Medicare program itself, through reduced healthcare expenditures. Nutrition therapy, in the context of multidisciplinary care, has a potential short-term cost savings for specific populations such as those with hypertension, dyslipidemia, and diabetes. While these effects have been expressed in economic terms, detailed budget forecasts of these effects require a more extensive actuarial analysis that is beyond the scope of this study. Initial estimates for potential cost avoidance for individuals with hypertension, elevated lipids, and diabetes have been included. The estimates were provided in ranges corresponding to the utilization scenarios and are $52 million to $167 million for hypertension, $54 million to $164 million for those with elevated lipids, and $132 million to $330 million for those with diabetes. It is not appropriate to add these estimates together since beneficiaries have overlapping diagnosis. Estimates were not made for the 5.62 million beneficiaries likely to receive nutrition therapy for other diagnoses such as chronic renal insufficiency and heart failure. Ex-

panded coverage may be cost saving in these broader patient groups, although data are inadequate to reliably establish these patterns.

Whether or not expanded coverage reduces overall Medicare expenditures, it is recommended that these services be reimbursed given the reasonable evidence of improved patient outcomes associated with such care.

In addition to decreased mortality and morbidity, nutrition therapy can have an impact on quality of life in less tangible ways that cannot be measured quantitatively. Meals provide the social context for important religious and family experiences across the life course. Because food is central to an individual's social attachment and role, dietary problems that require significant behavior change or interfere with long-established social relationships can have a significant impact on patient well-being independent of their impact on mortality or morbidity. Nutrition therapy translates the desired treatment goals into daily life skills such as grocery shopping, food preparation, and selecting from restaurant menus. Nutrition therapy that assists homebound patients to participate in family meals may have a greater impact on subjective well-being than many other interventions that have equal impact on physical health.

CONCLUDING REMARKS

In summary, evidence exists to conclude that nutrition therapy can improve health outcomes for several conditions that are highly prevalent among Medicare beneficiaries while possibly decreasing costs to Medicare. Basic nutrition advice for healthy living and the primary prevention of disease can often be provided by a multitude of health care professionals who have had less extensive academic preparation in nutrition science and/or clinical training than a registered dietitian. This is not considered a service that should be a separately covered benefit to Medicare beneficiaries. However, the provision of nutrition therapy requires in-depth knowledge of food and nutrition science. Registered dietitians are currently the primary group of health care professionals with the necessary type of education and training to provide this level of nutrition service. It is recognized that there may be others within medical subspecialties who may have particularly strong levels of expertise and could in the future be evaluated by HCFA as a certified provider. The committee found numerous inconsistencies in current health care regulations and standards. Agencies responsible for oversight need to reevaluate regulations associated with the provision of quality nutrition care to ensure that policies and standards are based on evidence and represent the best use of resources. In addition, reimbursement policies must be reevaluated to en-

sure that the nutritional needs of Medicare beneficiaries are met consistently across the continuum of care.

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The Role of Nutrition in Maintaining Health in the Nation's Elderly

Evaluating Coverage of Nutrition Services for the Medicare Population

Committee on Nutrition Services for Medicare Beneficiaries

Food and Nutrition Board

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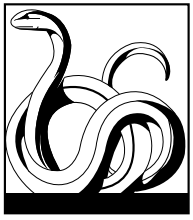

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Virginia A. Stallings, MD
Chair
Committee on Nutrition Services
for Medicare Beneficiaries

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