Older Americans Act

National Policy and Resource Center on Nutrition and Aging

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The Elderly Nutrition Program: Contributing to the Health and Independence of Older Adults

A WHITE PAPER ON MEASURING OUTCOMES

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INTRODUCTION

The Older Americans Act (OAA) and its Elderly Nutrition Program (ENP) stand at the crossroads of a rapidly changing environment that includes continually emerging scientific evidence linking nutrition to health; an expanding older adult population, particularly in the 85+ group; a potential budget surplus after years of deficit; and new emphasis on public program accountability and effectiveness. These trends form a challenging backdrop for the ENP as it faces its future in the next millennium—a future where evaluation and documentation of outcomes will be important. How can the ENP achieve its aim of promoting better health through improved nutrition, and contribute to the goal of keeping older Americans independent and functioning in their own homes and communities? How can ENP continue to meet the needs of increasing numbers of frail elderly including ethnic minorities with health disparities? What do outcomes mean and how do they relate to the many constituencies of the ENP: participants, families and caregivers; local communities; and local, state and federal oversight agencies and elected officials? What is the evidence of ENP's effectiveness? What array of culturally appropriate nutrition related services and culturally competent professional expertise contributes to this body of evidence? How can the ENP and OAA link to the broader health and supportive system including managed care, PACE and other home and community care models, and emerging treatment modalities including telemedicine, and specialized home services? This paper explores the challenges, summarizes current evidence about the effectiveness of the ENP, and presents a model that could serve as a framework for future accountability and outcomes evaluation efforts.

I. BACKGROUND

The Older Americans Act has been at the forefront of publicly funded in-home and community-based care for older adults. Federally funded and state and community implemented, the OAA authorizes a coordinated, comprehensive system of community-based, long-term care supportive services, including nutrition services, sufficient in quantity to maintain older people in their communities and in their homes. This includes support to family members and other persons providing voluntary care to older individuals in need of long-term care services. These services should offer choice in supported living arrangements and social assistance with an emphasis on maintaining a continuum of care for frail and vulnerable older adults. In addition, proven research knowledge that sustains and improves health and happiness should be used to benefit participants (1).

The ENP was created in 1965 (as Title VII) to provide older Americans with low-cost nutritious meals, nutrition education, and opportunity for social interaction. Today, over 4,000 ENP nutrition projects provide congregate and home delivered meals, nutrition education, nutrition counseling, and nutrition screening and assessment, and in some cases health promotion and referral services to approximately 3.2 million older adults (2), many of whom have health problems and functional impairments (3). As a part of the OAA network of services, the ENP helps older adults consume more healthful foods, improve or maintain their nutritional and health status, and ultimately remain independent in their homes and communities.

Good nutrition is essential to the health and quality of life of older persons (4,5). From continually emerging scientific evidence about nutrient requirements, adoption of new eating patterns, and the important role nutrition plays in health maintenance and chronic disease management, we are learning more about intervention approaches that positively impact nutritional status, health, and quality of life. Parallel with this expanding foundation of scientific studies is a trend toward greater use of scientific evidence for decision making at all levels from local program operations to Federal policy. This trend, called evidence-based practice, reflects increased reliance on empirical data from scientifically–sound studies and, where evidence is lacking, expert consensus as a basis for designing and modernizing programs and intervention strategies (6,7).

Efficient and effective programming will be necessary if the ENP is to meet the demands of the future. The older adult population, particularly the 85+ group, is the fastest growing population segment (2). Adding to this, the aging of the Boomer population and its anticipated demand on the long-term care system is just around the corner. In fact, the first group of baby boomers will be eligible to receive OAA services in 2006 (8).

Debate surrounds the anticipated federal budget surplus, how much will be used to fund Medicare and Social Security, and what portion, if any, will support public programs, especially those serving the older population (9). OAA funding is discretionary, dependent yearly upon congressional appropriations. Currently, public funding streams, client eligibility requirements, and types and amounts of federal, state and local funding for home and community services vary greatly from state to state (10). The types and intensity of services available are dependent upon federal, state, and local public support as well as private funding, local level ingenuity and partnerships. ENPs themselves use a variety of mechanisms, including participant cash donations, volunteer inputs, and fund- raising activities to expand the array of nutrition services they can offer (3). ENPs responding to the Nutrition 2030 Grassroots Survey listed obtaining funds as the key issue they face (11).

Nutrition and other services that help people remain in their own homes are valued for economic and other reasons. The escalating costs of health care and nursing home placement have been a driving force behind the development of an array of in-home and community-based services that enable older adults to remain independent and productive in their homes and communities. Home and community-based Medicaid waiver programs and other federal and state-sponsored nursing home diversion initiatives are increasing as policy makers seek to reduce public expenditures for nursing facility long-term care. Appropriate usage of home and community based services reduces the costs of premature nursing home placement (12). The expansion of community-based service options provides older adults and increasing numbers of adult caregivers with multiple choices for meeting needs and supporting their quality of life. This reflects society's value for some autonomy in personal and family decision-making and the preference for community-based versus institutional care.

Programs must produce results. This is the principle behind the Federal Government Performance and Results Act (GPRA) of 1993. GPRA is changing the way public programs are held accountable and funded at the federal and state levels. Programs must now demonstrate the effectiveness of services and document outcomes

for program participants. This way of thinking about programs is part of the "outcomes movement". Attention to outcomes leads to redefinition of goals, of what services should be provided, and of how they should be delivered and improved (13,14). OAA programs must now document performance effectiveness. One way ENPs have started tracking outcomes is by reporting the numbers of persons served who are at malnutrition risk as defined by an aggregate score of 6 on the National Aging Program Information System (NAPIS) Nutrition Screening Form (15). Some states require more evidence of improvement depending upon their program focus. Efforts are under way in several states to build upon what is reported to the Administration on Aging (AoA) by revising the nutrition screening form to capture risk reduction evidenced by subsequent participant screenings. Additional approaches for measuring and documenting outcomes of ENPs and linking outcomes to provided services are likely to emerge as a result of GPRA.

Regardless of how the effectiveness of ENP is evaluated, it must be done so within its proper context. Many factors influence an older person's nutritional status, health status and quality of life, and subsequent ability to remain independent and functioning at home and in the community. These factors are organized as personal, community and system factors in **Figure 1** (p. 4).

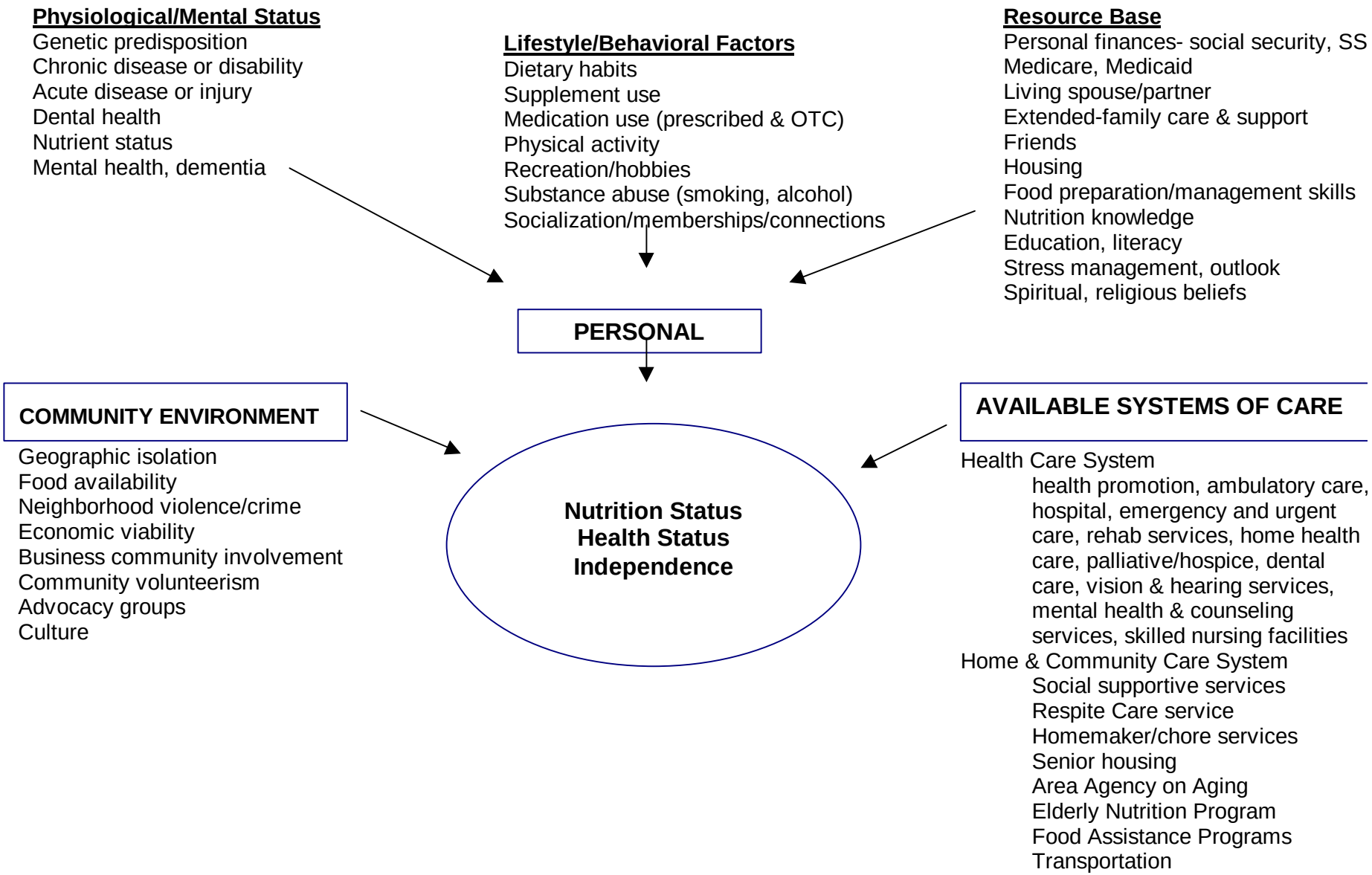
The various factors are interrelated and form a web of social, health, economic and political considerations for stakeholders and decision makers at all levels—from older individuals, to family members and caretakers, to community leaders, to ENP program managers, and to state and federal policy makers.

The role that ENP plays in fostering optimum nutritional status, supporting health and ultimately helping older adults remain independent in their homes and communities is intertwined with many of these factors. ENP has the ability to impact some factors such as nutrient intake, nutrition knowledge, social contacts, and food availability in the community. In contrast, many of these factors, such as the individual's disease state or poor preventive health services, moderate the potential impact of ENP. Thus, ENP outcomes must be viewed within the context of relevant personal, community and systems factors.

II. THE PRESENT: CURRENT EVIDENCE BASE

ENPs help older adults maintain independence and productivity by providing food and nutrition services that contribute to nutritional-well being, health and quality of life (3). Congregate and home-delivered meals provide food and nutrients that contribute to improvement or maintenance of health status and play an important therapeutic role when used for disease prevention or management. Scientific evidence is confirming the need for age-specific nutrient requirements (e.g., folic acid, vitamins B6, B12), and the role of dietary change in helping manage common and costly and chronic diseases, (e.g., diabetes, hypertension, and heart disease). This evidence documents the important association between adequate nutrition and positive health status of older Americans (16-18).

Figure 1. Factors Affecting Nutritional and Health Status and Level of Independence in Older Adults



Food and nutrition services contribute to quality of life of older adults by meeting supportive, emotional and cultural needs (19). A home-delivered meal consisting of favorite, wholesome foods and the few minutes socializing with the individual delivering the meal may be the daily highlight for many frail, isolated older adults. This daily contact also allows the program to conduct safety surveillance while giving the older adult a social contact and a sense of security.

Congregate dining brings older adults together on regular bases for food and socialization. It offers volunteer opportunities as well informal sharing and problem solving with peers, formal access to physical activity programs, nutrition and health education, counseling by program staff and access to an information and referral network.

ENPs also provide an array of technical and professional services that, when targeted appropriately, contribute to health promotion and independence. Such services include nutrition education (a yearly minimum of two episodes), nutrition screening and assessment, individualized nutrition care plans, nutrition counseling, and collaborative interdisciplinary case/care management. Customized for the specific participant and program situation, these services allow the ENP to further increase dietary intake and participant satisfaction beyond the sole provision of a meal. For example, modification of food texture might be an individualized care plan recommendation based on information gathered through nutrition screening and assessment. Identifying the need and obtaining an adaptive device to facilitate eating might result from an interdisciplinary case management conference. ENP also plays a valuable role in linking persons with other services in the network. The type of service and amounts provided vary across ENPs depending on financial and professional staff availability and linkages with community agencies (3).

Beneficial outcomes resulting from the meals and services provided by the ENPs have been documented at the national and local level (3,20). The national Evaluation of the ENP determined that ENP participants have higher daily intakes of key nutrients than non-participants do. ENP meals are nutrient dense and provide approximately 40-50 percent of participants' daily intakes of most nutrients. ENP participants are satisfied with ENP services (3). There is evidence at the local program level that the ENP helps participants improve/maintain nutritional status that in turn reduces hospital stays and healthcare costs (20). The relationship between food enjoyment and quality of life has been established (21,22). The benefits of using nutrition screening to identify potentially costly, nutrition-related risk factors needing intervention has been identified (23).

The recently completed Morning Meals on Wheels Breakfast Pilot Program (MMOW) demonstrated the value of a collaborative public/private partnership in helping ENPs expand services and document participant and program outcomes (24). Nationwide, twenty ENPs differing in size and geographic location provided breakfast as a second meal to 1500 frail homebound older adults. The ENPs collected uniform data to measure MMOW participant improvement and satisfaction and program benefits. With the addition of breakfast, participants did improve their intake of nutrient dense foods from key food groups and experienced reduction in nutritional risk factors. They and their caregivers were pleased with the MMOW. Program benefits for ENPs included delivery and cost efficiencies while improving dietary intake of participants. In addition,

some ENPs reported improved community service coordination and new referrals. The MMOW pilot demonstrated the enhanced ability of ENPs to identify and measure ENPs and aging network. ENPs have not uniformly collected outcomes data, concentrating instead on numbers of participants served or numbers of meals produced. The recent Nutrition 2030 Grass Roots Survey of local ENPs revealed the majority have questions about identifying relevant outcomes and appropriate performance indicators for both program and individual participants (11). ENPs would like practical, useful tools to measure the results of their services (11).

III. THE FUTURE: GETTING TO OUTCOMES

Like a puzzle, several pieces linking ENP services to nutritional status, good health, and functional independence exist, while other pieces connecting ENPs to reduced nursing facility placement and long term care costs are more difficult to find. Pieces merging ENP's contributions with those of other players in the network of provider systems are most elusive. Creating the picture of ENP and its role in producing important outcomes will be an on-going challenge.

The first step toward defining the contributions of ENP is acknowledging the wide variation among and across ENPs (3). Depending upon its mission, an ENP may provide only meals and nutrition education or may be a full service agency providing the full array of nutrition and supportive services. How and what does each ENP contribute toward improving the nutritional and health status of older adults, fostering their independence and quality of life, and delaying or preventing nursing home placement?

A research agenda raising process, outcome and cost-effectiveness questions for food assistance programs, including ENP, has been proposed (26). More recently, Westat has compiled a variety of approaches for measuring outcomes within the GPRA accountability and improvement context for AoA (27). The document demonstrates many diverse programs use similar outcomes, (e. g. participants have social interactions, are not homebound, experience decreases in social and health problems) (27). Common outcome categories include increased functional ability, program satisfaction, and psychological and social well-being (27). The questions raised and the approaches identified provide a direction that could accommodate the ENP, whether the point of measure is individual participants at the local program level, or the specific population targeted at the level of the Area Agency on Aging (AAA), the State Unit on Aging (SUA), or the national AoA.

A Model for Measuring Outcomes

As ENP faces the challenge of modernizing to meet the demands of the future, a measurement approach that emphasizes accountability and continued improvement would be useful. We propose a system-oriented approach as a framework for documentation and evaluation of ENP efforts and outcomes. The systems approach links allocated resource *inputs* (e.g., personnel, facilities, food) to *activities* conducted (e.g., food production and service, nutrition education) to *outputs* (e.g., number of meals, number of nutrition education sessions) to *outcomes* achieved (e.g., improved nutrient intake).

INPUTS ✍ ACTIVITIES ✍ OUTPUTS ✍ OUTCOMES

The model ties program planning and budgeting and program operations to results. It fosters performance improvement by linking program-operating decisions with outcomes. An appended Glossary provides definition of terms commonly used in outcomes and performance measurement, and **Figure 2** (p. 8) elaborates the model as it is applied to ENP.

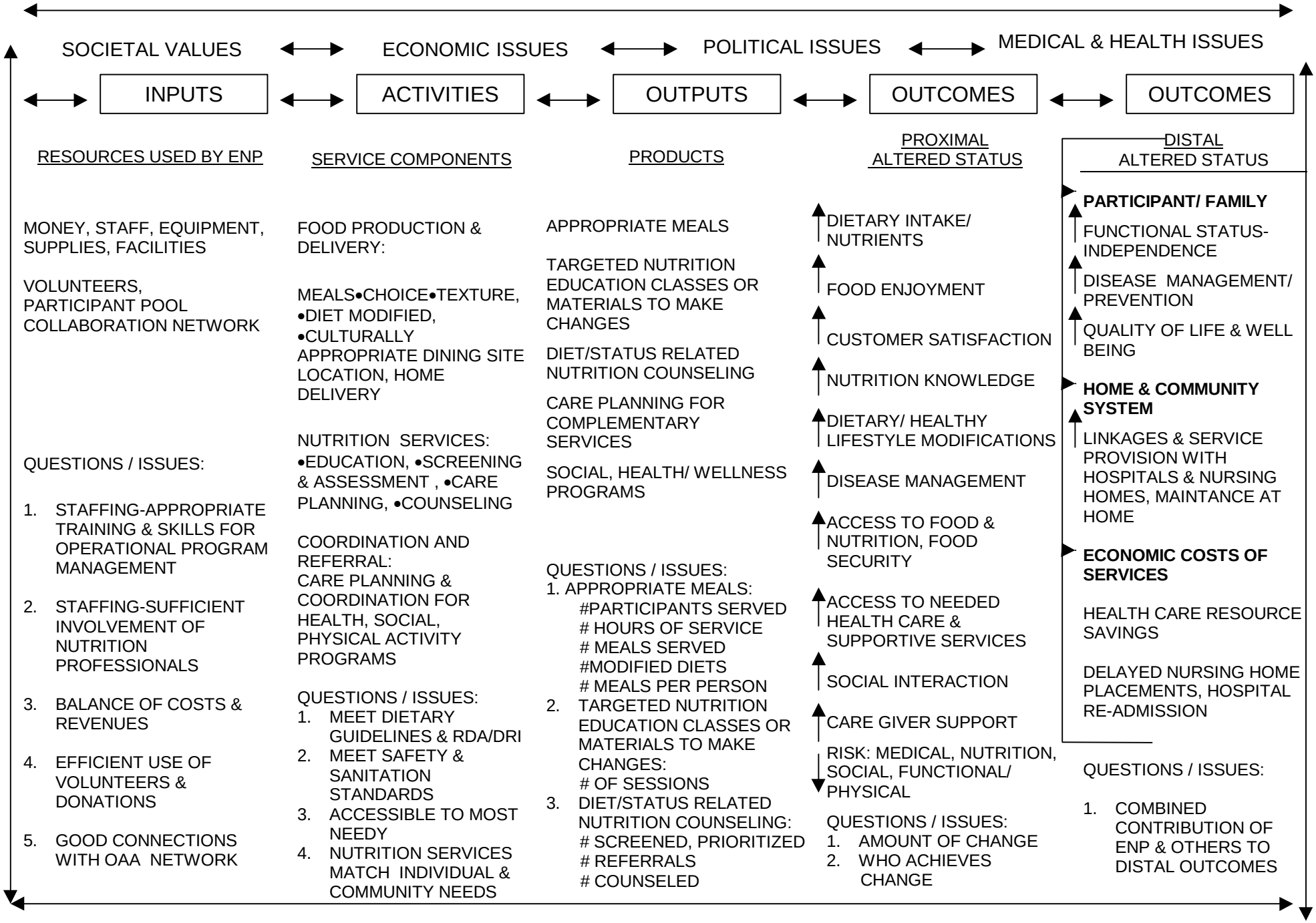
The concepts in the first three boxes are familiar to ENP directors and managers. Inputs are closely related to budgeting and accounting functions. The Activities box details what services are offered and addresses their quality. The Outputs are the traditional counting of meals and participants served that have been the hallmark of reporting and accountability to date.

The range and quality of nutrition related activities conducted and the availability of professional nutrition expertise most strongly determines the type and amount of Outcomes that can be expected. An ENP offering congregate meals and occasional nutrition education cannot be expected to produce the same outcomes as a comprehensive ENP offering meals and regular nutrition education, assessment, counseling and linkage to an extensive network of other supportive services.

The four parts of the model can be used to construct an idealistic and theoretical picture of what ENP can do. It can also be used to construct a picture that is realistic, measurable and achievable. Figure 2 illustrates the Input✍Activities✍Output✍Outcome framework for ENP from a theoretical point of view. The framework illustrated in Figure 2 shows two outcomes boxes. This is done deliberately to identify those outcomes that are proximate (closer in time) and more directly, the result of the specific program component(s) offered by ENPs. It is here that the direct results of the nutrition outputs will most likely be translated into the proximal outcomes. The ready availability of nutrition professional can help facilitate this translation. The second outcomes box identifies other outcomes affected by ENP program activities that are more distal (intermediate or longer in time); however numerous other factors (as previously shown in figure 1) and programs also contribute to the achievement of these outcomes.

This separation and identification of proximal and distal outcomes (recognizing that some outcomes could fit in either box) accounts for the fact that a range of services in the home and community based network work together to produce the outcomes, while capturing the contribution of ENP. This is important because ENP is a component of and coordinated into a larger network of care. Case management agencies will identify and measure outcomes that include ENP contributions (28). SUAs and AAAs will measure broader population-based outcomes for independence and health status. These home and community-based outcomes can then be linked to the emerging health and supportive service system. Specification of outcomes and consideration of which are most directly a result of ENP activities and which are reinforced by additional inputs from other organizations is useful for exploring the contributions of partner organizations to shared outcome objectives.

FIGURE 2 A MODEL TO IDENTIFY POTENTIAL PERFORMANCE AND OUTCOME INDICATORS FOR THE ENP



Once elaborated, as in Figure 2, the framework lays out concepts/details to be defined using standard terminology for measurement purposes. This leads to the important step of developing standard measures (or indicators). The aim is to move from an idealistic/theoretical model of ENP's role and contribution to a concrete one that is useful for documentation and evaluation.

The Challenge and Opportunity of Outcomes Measurement

Outcomes measurement involves documentation and periodic assessment of key indicators of performance, including cost (inputs), activities, outputs, and outcomes (proximal and distal). These measures are collected within a program and compared against stated objectives and/or other programs. Outcomes measurement links outcomes to program activities. It provides a database that is useful for accountability purposes and for guiding performance improvement.

While the list of key performance indicators, including potential outcomes resulting from ENP and other OAA services, is long, there is a paucity of relevant standardized measures/indicators. In addition, many players in the system are unfamiliar with outcomes measurement and evaluation processes. Further, attribution of distal outcomes to ENP requires sophisticated evaluation strategies with careful, coordinated tracking of multiple services and outcomes. Addressing these challenges will require the collaboration of many in the provider, academic, and government sectors.

On the positive side, identification and standardization of relevant performance measures/indicators offers opportunity to ENP. It facilitates compliance with the expectations of GPRA. It interfaces with the specification of data elements for impending computerization of program operations and reporting. Standardized definitions and measurement methods streamlines the documentation, tracking, routine aggregation, and reporting of ENP inputs, activities, outputs and outcomes.

Once standard indicators and methods for documentation are available, they become useful tools for accountability and evaluation. Standardized indicators, derived from the model, should build on current reporting requirements. For example:

- Input costs related to output (e.g., cost per meal) as a routine indicator for budget and service accountability
- Type and quality of program activities related to amount of change in proximal/direct outcomes such as nutrition knowledge, dietary intake, and nutrition risk reduction.

More complex evaluation and research strategies will be necessary to sort out the contribution of ENP to more distal and indirect outcomes of quality of life, independence, and health care costs.

An enhanced system of outcomes measurement will improve the quality and consistency of information available about ENP and its outcomes. This information can then be used by older adults and their caretakers and families for service selection; by service providers for program improvement; by funding sources for accountability and funding decisions; and by policy makers for reauthorization and funding decisions. Most important, a system of outcomes measurement allows determination of the most

successful aspects of programs and understanding of who benefits under what circumstances. This information can be used for more efficient and effective targeting of program components to match participant and community needs.

RECOMMENDATIONS

The ENP has yet to demonstrate its full potential in helping older adults remain independent and at home because of a premature tendency to focus on distal outcomes. First, the linkage between ENP outputs/ services/activities and products and proximal outcomes must be made. This speaks to the current sophistication of the system and the fact that availability of nutrition screening, assessment, counseling and professional expertise required to achieve proximal outcomes varies widely across ENPs, AAAs and SUAs. Without inclusion of these critical nutrition service components, achieving positive proximal and distal outcomes of nutritional wellbeing, health and independence for older adults will be very difficult. ENPs, AAAs, and SUA will find it increasingly difficult to demonstrate the value of their programs.

1. As the first step, the linkage between ENP activities and outputs products and proximal outcomes must be documented. This will require:
   - Identification and inclusion of key nutrition services and expertise by nutrition professionals that are necessary to produce proximal outcomes
   - Identification of key performance measures, especially in the areas of activities and outcomes
   - Clarification of evidence-based linkages between ENP and important outcomes
   - Development and validation of relevant outcome indicators/measures
   - Standardization of methods for measurement and documentation
   - Clarification of roles related to performance and outcomes measurement
   - Training of ENP, AAA and SUA managers and staff
   - Adaptation of NAPIS and other evolving technology to track data
   - Additional funding ear-marked for the above tasks.
2. Parallel with the above steps, the linkage between the ENP proximal and distal outcomes must be established:
   - Determine the appropriate placement and impact of ENP on the distal outcomes that broadly measure health, independence and quality of life
   - Design and fund an evaluation study to demonstrate the role the ENP plays in helping achieve these broadly defined distal outcomes.

CONCLUSION

ENP has a 35-year history of providing meals, nutrition education and social and service connections to vulnerable older adults. It now stands at the crossroads of a rapidly changing environment. Scientific evidence confirms the relationships among

food and nutrition services, health promotion, disease prevention and disease treatment. The increasing levels of frailty in the growing numbers of community residing older adults, especially minorities with health disparities, require ENP services to operate very efficiently. Programs must also meet higher expectations for accountability and effectiveness. Attention is now focused on outcomes—how participants, their families and caregivers benefit from ENP services. These challenges require a systematic process for documenting activities and evaluating outcomes. Its development will require a new look at ENP, how it operates and the results it produces. It will require the combined effort and expertise of many.

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Glossary of Terms Used in Outcomes & Performance Measurement

ENP Quality Process	Use of scientific evidence based indicators to determine food and nutrition services and programs, (e.g. menus that meet 1/3 RDA/DRI, Dietary Guidelines, food safety and sanitation regulations, prioritized screening, assessment, and nutrition therapy)
Baseline	A single starting point or reference for measuring change over a time period
Benchmarking	A system for comparing performance on a defined set of standardized indicators among similar programs or facilities
Best Practice	A high level of performance considered achievable for the industry, a benchmark for others to reach
Efficiency	Producing the greatest *output* with the resources (inputs) available (e.g., cost/meal)
Effectiveness	Achieving desired outcomes under ordinary circumstances of program operation
Cost-effectiveness	Producing the greatest *outcome* with the resources (inputs) available (e.g., change in nutrition risk/dollar spent)
Indicator/ Measure	A specific way to observe and measure a phenomena of interest; a quantitative tool to describe, monitor or assess status
Outcome Measure	Tangible, quantifiable indicator of the actual results of a program, service or activity; specific information collected to track the program's success
Output Measure	Counts of products and services delivered and numbers served, or ratios of products and services to staff, hours, clients, target population, etc; also called a *process measure*
Performance Measure	Specific measurements used to document and monitor achievement in important areas of performance
Performance Target	Numerical level or amount of change expected for a specific indicator in a defined time period (month, year); also *called goal, objective, threshold, standard, benchmark, expectation*
Input	Type and amount of resources (staff and their qualifications, food, supplies, materials, buildings, etc) allocated to (budgeted) or consumed by the program or service
Activity	What the program does with the inputs; how it organizes work into program components to achieve the program or service objectives (food production and delivery, nutrition education, nutrition screening, assessment and counseling); also called *process* in some evaluation systems
Output	Units produced by program operation (e.g., number of meals served, number of assessments completed)
Outcome	Results experienced by participants; changes caused by the program; can be proximal & direct or distal & indirect.