Nutrition Care Process Part II: Using the International Dietetics and Nutrition Terminology to Document the Nutrition Care Process

A regularly scheduled update of the Nutrition Care Process and Model (NCPM) was presented in Part I of this manuscript (1). Activities of registered dietitians (RDs) within the four steps of the Nutrition Care Process and Model are described using the International Dietetics and Nutrition Terminology (IDNT) (2). This standardized language or controlled vocabulary is being developed to describe the unique functions of dietetics in nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation. The IDNT is designed to facilitate clear and consistent descriptions of the services RDs provide both within and outside the profession.

The NCPM and IDNT are complementary tools. The NCPM is a problem-solving model, while the IDNT provides a standardized set of terms used to describe the results of each step of the model. The vision for these tools is not only to facilitate communication, but to enable researchers to more clearly describe the types of nutrition problems observed in patient populations, the interventions provided, and the results of those interventions. These tools will also facilitate medical record documentation as the health care system moves to implement the federal mandate of an electronic health record for every American by 2014 (3). A single set of defined terms, the IDNT will facilitate including RD activities in not only electronic health records, but also in policies, procedures, rules, and legislation. The purpose of this article is to review how the standardized language is being developed and how it may be used to document care.

This article was written by the ***Writing Group of the Nutrition Care Process/Standardized Language Committee****.*

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BACKGROUND

The IDNT was conceived as a controlled vocabulary, defined by the National Library of Medicine as a system of terms, involving definitions, hierarchical structure, and cross-references, used to index and retrieve a body of literature in a bibliographic, factual, or other database (4). RDs are familiar with standardized languages such as the International Classification of Diseases (ICD-9/ICD-10) and the Common Procedural Terms (CPT) that are used extensively in health systems management (5,6). The American Medical Association, which owns and licenses the CPT codes, has designated two terms for use by RDs (7). The nursing, physical therapy, and occupational therapy professions have created controlled vocabularies or standardized languages that describe their unique functions (8-10). Some of these vocabularies contain nutrition terms, but none of the terms adequately describe the breadth and depth of activities unique to the profession of dietetics.

THE STANDARDIZED LANGUAGE OF DIETETICS

Development of a standardized language for dietetics began in 2003 when a logic model was created to guide the process (Figure 1). Logic models are used in industry to facilitate project management and measure project outcomes (11). Major project milestones and completion dates are included in Figure 1 and summarized in the following text. Since the NCPM was introduced, more than 60 nutrition diagnoses have been identified to describe nutrition problems that an RD can independently treat (2). More than 70 terms have been developed to describe nutrition interventions, defined as purposefully planned actions designed to change a nutrition-related behavior, environmental condition, or aspect of health status for an individual, target group, or community (2). Definitions have also been developed for more than 170 nutrition monitoring and evaluation parameters which may be used to measure change in outcomes relative to the nutrition diagnosis and intervention (2). Plans are in place to develop and validate scales for the monitoring and evaluation step of the Nutrition Care Process. A fall 2008 release is planned for the 2009 version of the standardized language which will add nutrition assessment terms to more than 300 existing terms. The hierarchy of terms and their relationship to the steps of the Nutrition Care Process is found in Figure 2.

Validation and Revision

Like other standardized languages, the IDNT is republished annually so that it can be revised based on validation studies and changes in practice (12). Members of the Dietetics Practice-Based Research Network participated in reliability and data validation studies of the nutrition diagnostic terms. These results are incorporated into the IDNT. In 2007, reference sheets for more than half of the nutrition diagnoses were clarified to more accurately reflect signs and symptoms identified in practice (2). Users of the IDNT are encouraged to submit changes to the terms using accepted forms and procedures. Local modifications of the terminology are strongly discouraged as this

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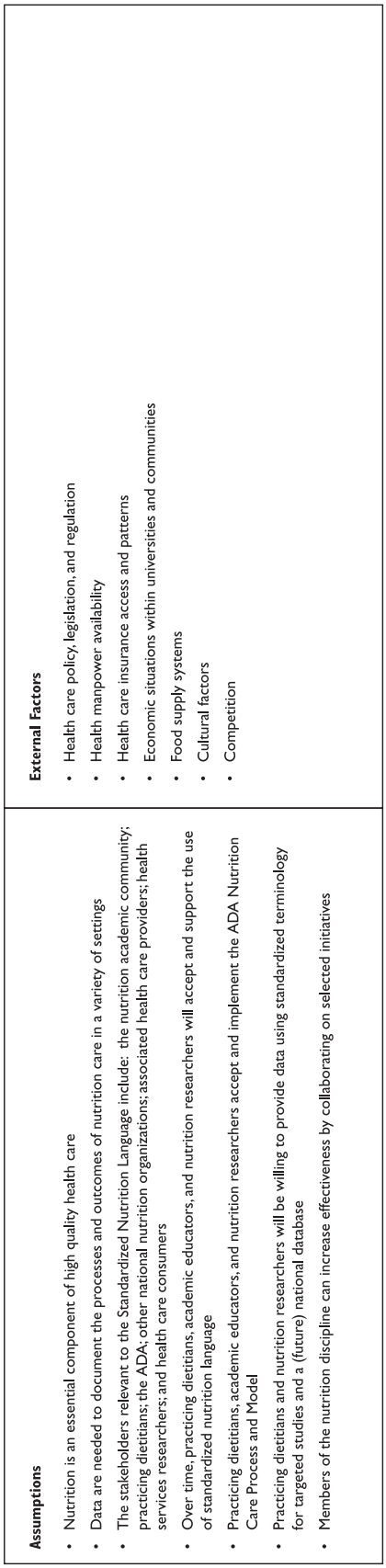
Goal: To provide data to foster nutrition practice, education, research and policy

Input → **Outputs** → **Outcomes – Impact**

Inputs *Investments*	**Activities** *What we do*	**Participation** *Who we reach*	**Short Term**	**Medium Term**	**Long Term** *Ultimate impact*
• ADA's Nutrition Care Model Workgroup • ADA's Standardized Language Task Force • ADA's members and House of Delegates • Partners • Stakeholders • Consumers	• Create the Nutrition Care Process and Model (2003) • Create the Conceptual Framework for a Standardized Nutrition Language (2004) • Create and revise the publication(s) of terminology and supporting reference material (ongoing)	• ADA members • Peer Network for Nutrition Diagnosis • Dietetic Practice Groups • House of Delegates • Board of Directors • Clients • Partners • Associated health care providers • Consultants • Agencies • Policy makers	• Consultants appointed (2004) • Create and approve Project Logic Model incorporating Nutrition-Care Process and Model and the Conceptual Framework for a Standardized Nutrition Language (2003) • Recommend interface with ABC code list (2004) • Review options for the structure of nutrition diagnostic terminology (2004) • Establish structure and processes for Task Force members to cross-walk current nutrition diagnostic terms with SNOMED (2003) • Draft cross-walk of diagnostic terms and evaluable results (2004) • Review relevant intervention terms in other controlled vocabularies (2003) • Identify important policy issues relevant to standardized nutrition language (2003)	• Decide preferred structure for International Dietetics and Nutrition Standardized Language (2003-2007) • Establish structure and processes for Task Force members to select relevant intervention terms and cross-walk with SNOMED (2004) • Draft cross-walk of intervention terms and evaluate results (2005) • Review relevant assessment terms in other controlled languages (2008) • Disseminate results of the process and outcomes of the Nutrition Care Process and Standardized Language Committee (ongoing) • Create resources and strategies for ongoing maintenance and updates of standardized terminology by ADA and/or partners (ongoing) • Design and develop mechanisms to link with other data sources and benchmarks (2005) • Draft legislative and policy agenda relevant to standardized nutrition language • Determine and market products to support both the Nutrition Care Process and International Dietetics and Nutrition Standardized Language (ongoing)	• Quality, cost-effective nutrition care delivered in partnership with providers, agencies, and communities • Nutrition care grows nationally • Standardized nutrition language included in dietitian education • Standardized language used in research contributing to the discipline (ongoing) • Ongoing maintenance and updates of standardized terminology accomplished by ADA and/or partners (ongoing) • Evaluate a national data warehouse established for a sustainable, reliable, useful database for ADA/dietitians/researchers • National, state, and local policies developed and supported to foster nutrition practice, education, and research • Incorporate Nutrition Care Process and International Dietetics and Nutrition Standardized Language into dietetics practice world-wide (ongoing)



practice not only defeats the purpose of a standardized vocabulary, but compromises the ability to compare data across institutions and practice settings. As time progresses, synonyms may be offered where there is a specified practice need for varying terms to be used to reflect the same concept.

Figure 1. Logic model for standardized nutrition language within The American Dietetic Association (ADA). The goal is to provide data to foster nutrition practice, education, research, and policy.

Documentation of Nutrition Care

A primary use of the IDNT is to document nutrition care in the medical record. According to the American Health Information Management Association, a medical record serves as the legal record substantiating health care services provided to a patient, as a method of communication among health care providers caring for a patient, and as supporting documentation for reimbursement of services provided (13). Food and nutrition professionals have been documenting nutrition care in medical records since ADA and the American Hospital Association introduced joint documentation guidelines in 1966 (14).

In practice, RDs use many different formats for medical record documentation. Documentation may follow the steps of the NCP (eg, A-Nutrition Assessment, D-Nutrition Diagnosis, I-Nutrition Intervention, ME-Nutrition Monitoring and Evaluation) or the standardized language may be incorporated into other formats, including the electronic health record, which may offer a very different documentation system than conventional paper formats. Incorporating the IDNT into the electronic health record is essential to describe the nutrition care provided to patients and clients. Clearly established language describing nutrition assessment, diagnoses, interventions, and monitoring and evaluation will facilitate database queries and data compilation not practical with a paper record. A standardized language that describes unique dietetics functions will enhance the visibility of the RD to providers and further distinguish the RD as the expert provider of nutrition care. Regardless of the exact format used, quality documentation is ongoing, relevant, accurate, and timely. It includes:

- Nutrition-related assessment data, including pertinent food and nutrition history, biochemical data, medical tests and procedures, anthropometric measurements, nutrition-focused physical exam findings, and client history. The assessment may also include comparing data with pertinent standards.
- A clear concise statement of nutrition diagnosis(es) written in the general format: "Diagnosis" related to "etiology" as evidenced by "signs and symptoms" where a term from the most current version of the Nutrition Diagnosis Terminology is used to describe the problem. A nutrition diagnosis is the current impression of an RD. Therefore, it may be changed or revised as new information becomes available. The patient may have more than one nutrition diagnosis or the words "no nutrition diagnosis at this time" may be documented in the medical record if the assessment indicates that no nutrition problem currently exists that warrants a nutrition intervention.
- A description of the nutrition intervention is implemented to further the patient's/client's/group's progress toward the nutrition prescription, which is written by a registered dietitian to describe a patient's individualized needs. The intervention is linked to a specific nutrition diagnosis. Failure to link nutrition intervention to nutrition diagnosis has been identified as a deficit in existing documentation systems (15). Thus, each intervention is planned and accompanying goals are established with the patient/client/group.
- A description of the nutrition monitoring and evaluation is used to identify patient/client outcomes relevant to the nutrition diagnosis and intervention plans and goals. The change in specific nutrition outcome indicators can be measured and compared to previous status, nutrition intervention goals, or reference standards.

Abbreviated examples incorporating standardized language into documentation are found in Figure 3.

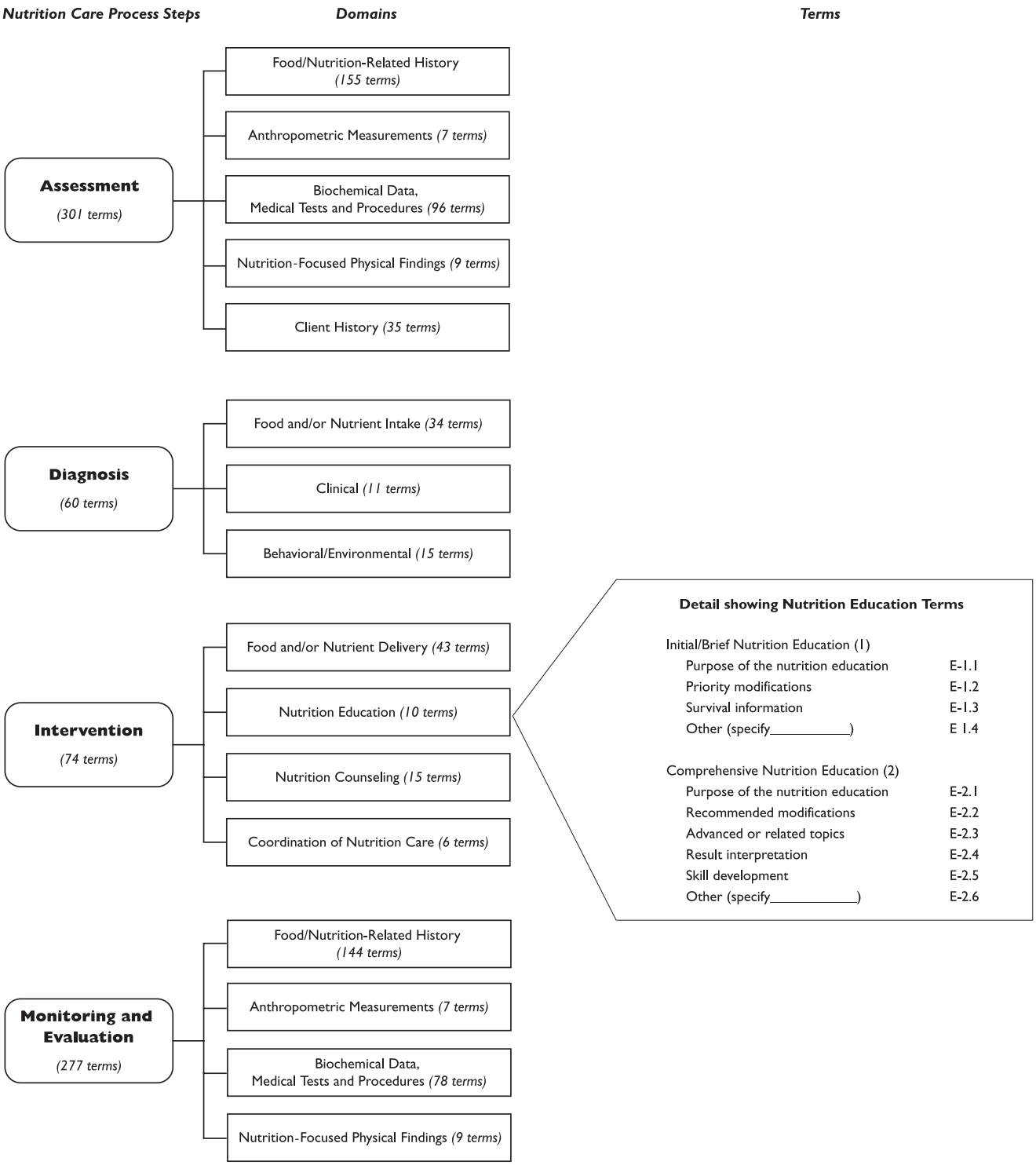


Figure 2. International Dietetics and Nutrition Terminology hierarchy.

Reimbursement and Regulation

Another use of the IDNT is to facilitate implementation of the standard protocols that RDs must use to obtain reimbursement for providing nutrition services. The IDNT is being incorporated into the evidence-based guides to practice and toolkits for use by RDs. As RDs apply these tools and collect outcomes data, clear links between nutrition diagnoses and nutrition interventions will appear. Data

Assessment	Diagnosis	Intervention	Monitoring and Evaluation
Case 1		**Acute Care, Hospital, or other Inpatient Setting**	
Biochemical data Within normal limits **Anthropometric data** Height 5'4"; weight 180 lb **Physical examination findings** Appears overweight **Client history** 47-year-old female 4th grade teacher with extensive medical and surgical history that is noncontributory to her nutrition complaint of 60 lb weight gain over 18 months. Food and nutrition history includes a usual intake of about 2,200 calories, eating when she is not hungry, and daily consumption of large portions of fried foods.	Excessive oral food and beverage intake (NI-2.2) (problem) related to lack of appetite awareness (etiology) as evidenced by history of eating when she is not hungry, and frequent consumption of fried foods (signs)	Nutrition prescription: 1,600-calorie diet Nutrition intervention: recommend, implement, or order a modification of meals and snacks (ND-1.2) Recommend, implement, or order coordination of care as needed on discharge (RC-1.2)	1. Food intake (1.3.2) 2. Total energy intake (1.2.1).
		Private Practice or Other Ambulatory Setting	
		Nutrition prescription: 1,600-calorie diet Nutrition intervention: collaborate with the patient to identify behavior change goals and use cognitive behavioral theory-based counseling strategies to address the goals over a period of several months (C-1)	1. Adherence to recommendations (BE-2.4.1) 2. Weight change (4.1).
Case 2		**Long-Term Care Setting**	
Biochemical data Within normal limits **Anthropometric data** Height 5'7"; weight 140 lb **Physical examination findings** Appears normal weight **Client history** 85-year-old nursing home resident whose weight has declined 8 lb (5%) over the last 30 days when a fall resulted in a broken shoulder.	Involuntary weight loss (NC-3.2) (problem) related to impaired self feeding ability (etiology) as evidenced by difficulty eating while wearing a cast and 5% weight loss in 30 days (signs)	Nutrition prescription: General diet with supplemental beverages twice daily Nutrition intervention: increase food and nutrient intake to the level in the nutrient prescription using supplements (ND-3.1)	1. Reports of/actual supplement intake (1.3.1) 2. Weight change (4.1).

Figure 3. Sample documentation using terms from the International Dietetics and Nutrition Terminology. Code numbers for the terms are included after each term as a convenience to the reader. It is not necessary to include the code numbers in hand-written documentation. Depending upon the system used, the codes may facilitate data retrieval from electronic health records.

demonstrating resolution of nutrition diagnoses and standardized descriptions of effective nutrition interventions can be used to demonstrate the value of dietetics services. These data can also be shared with payers, federal agencies, and accrediting bodies to influence coverage and compensation decisions.

Nutrition Informatics

It is expected that the IDNT will have an important role in nutrition informatics. Health care providers use biomedical informatics to integrate scientific knowledge with clinician expertise to optimize health outcomes (16). Nutrition informatics, defined as the effective retrieval, organization, storage, and optimum use of information data and knowledge for food- and nutrition-related problem solving and decision making is one of the newest branches of biomedical informatics. Because the purpose of NCP is to optimize nutrition-related outcomes, it makes sense that it acts as a framework for nutrition informatics in practice. The IDNT parallels like efforts in other professions as health care leaders collaborate to standardize terms and languages across disciplines for use in electronic health records. Because data management requires a consistent, structured framework and the NCP provides such a framework, food and nutrition professionals who integrate the NCP with computerized systems will be able to readily identify the datasets needed to demonstrate the impact that quality nutrition care has on health outcomes.

Standardized terminologies such as the IDNT support accurate data entry, management, retrieval, and correlation. When the IDNT is integrated into computerized systems, and clinicians consistently and correctly enter data into electronic health records, terminology experts are able to identify and retrieve not only a given dietetics term, but can also be assured that the definition of the term will remain constant regardless of geographic or temporal differences. When terminology data-

bases include the IDNT, electronic systems can be developed to recognize not only a given term, but also synonyms of that term that might be in common use.

Incorporation into Other Controlled Vocabularies

As the IDNT is further tested and validated, it can be incorporated into larger standardized languages such as the Systematized Nomenclature of Medicine—Clinical Terms; Logical Observation Identifiers, Names, and Codes; or United Medical Language Systems, which describe aspects of care provided by all medical disciplines. ADA has also been in contact with the federal Office of the National Coordinator of Health Information Technology about incorporating the IDNT into their initiatives. In addition, ADA is acknowledged by the Systematized Nomenclature of Medicine as a standards-developing organization that is developing and maintaining a standardized language.

Using the Standardized Language and Electronic Health Records in Research

If RDs consistently use the IDNT to document in electronic health records, unprecedented amounts of available data can be analyzed and the results used to improve nutrition care. If standardized language is used in reporting the results of research studies, comparison of the results from different studies and possible meta-analysis will be simplified. Incorporating the standardized language into electronic health records also offers opportunities and efficiencies to researchers conducting clinical trials, measuring outcomes and cost effectiveness, and for secondary use of data for population studies (17). Data generated in this manner can be used to support and expand dietetics practice.

CONCLUSIONS

During the past 5 years, more than 300 terms describing three steps of NCP have been defined and reviewed by experts. With the release of the nutrition assessment terms in 2008, the first complete version of the IDNT will be available for use by all food and nutrition professionals in all practice settings. Once the standardized language is validated, it can be incorporated into larger documentation systems. The IDNT will be used to facilitate communication in describing nutrition problems and the effectiveness of dietetic services in practice and research.

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