

Informatics Initiatives at the Academy of Nutrition and Dietetics



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BACKGROUND AND SIGNIFICANCE

REPRESENTING MORE THAN 90,000 registered dietitian nutritionists (RDNs), nutrition and dietetic technicians, registered (NDTRs),¹ and advanced-degree nutritionist researchers, the Academy of Nutrition and Dietetics (Academy) is the largest association of food and nutrition professionals in the world and is committed to improving the nation's health through food and nutrition across the lifecycle. Members work with individuals in all walks of life—from birth through old age—conducting research and providing medical nutrition care and other evidence-based nutrition services that optimize nutrition health.

The concept of nutrition informatics at the Academy began in 2006 with two publications that stirred conversations on what role nutrition has in the realm of informatics.^{2,3} The Academy's Nutrition Informatics Committee and the Interoperability and Standards Committee are volunteer members who work collaboratively, supported by an informatics staff partner, to promote member knowledge and skills in informatics and to assure nutrition inclusion in health information technology (health IT) standards. The Nutrition Informatics Committee supports a Consumer Health Informatics Work Group, which promotes consumer and member engagement in digital technologies and solutions positioned for improved health care.

EXTERNAL COLLABORATIONS ON INFORMATICS

Academy/AMIA 10×10 Informatics Education Program

In 2010, the Academy established a nutrition-focused American Medical Informatics Association (AMIA) “10×10” course in conjunction with AMIA⁴ and William Hersh, MD, FACMI, FACP, at Oregon Health and Sciences University. The course is offered in the spring of each year as a 12-unit online education offering with culmination at the Academy's annual Food and Nutrition Conference and Expo.⁵ The purpose of this collaborative course is (1) to advance Academy member understanding and skills in informatics, and (2) to promote advancement and vision for nutrition informatics practice within the profession. This 10×10 course has graduated 129 students over 6 years.

Health Level Seven

In 2010, the Academy's informatics team began to participate in health IT standards development with Health Level Seven (HL7). Beginning with the creation of Version 3 Diet and Nutrition Orders Domain Analysis Model,⁶ Academy volunteers' and staff's strategy is to embed nutrition content across a spectrum of standards to ensure nutrition content in patient-centric care. Key areas of work include support of Allergies and Intolerances Domain Analysis Model, creation of a Fast Healthcare Interoperability Resources Nutrition Order Resource, and nutrition sections in the HL7 Consolidated Clinical Document Architecture Release 2.1 (C-CDA R2.1), now mandated for transitions of care in the United States.

Healthcare Information Management and Systems Society

Early mentors for the development of nutrition informatics were the nursing informatics community, much of whom were leaders at the Healthcare Information Management and Systems Society (HIMSS).⁷ Since 2011, the Academy's and HIMSS's nonprofit partnership provides opportunities for each organization to showcase informatics at their annual conferences, participate in and support informatics discussions, blogs, and initiatives throughout the year, and provide subject matter expertise in shared venues.

AMIA Advanced Health Informatics Certification

The Academy participated as part of an interprofessional work group tasked with creating core content for a robust certification in health informatics.⁸ This work aligns with efforts to embed nutrition content in the health informatics profession and strengthen the plan for advanced practitioners to demonstrate their expertise.

Long-Term Post-Acute Care Health Information Technology Summit

Academy participation in the Long-Term Post-Acute Care Health Information Technology Summit (LTPAC HIT)⁹ began in 2010 and continues for purposes of promoting nutrition inclusion in transitions of care settings. The Academy has used this venue for proof-of-concept demos for nutrition interoperability across settings and for communication on nutrition content in health IT standards.

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American Society for Parenteral and Enteral Nutrition and American Society for Health-Systems Pharmacists

The Academy began collaboration with American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) in 2013 to discuss nutrition documentation in electronic health records (EHRs). A.S.P.E.N. has created a Clinical Nutrition Informatics Committee and has partnered with the Academy for surveys and publications on parenteral nutrition and EHRs.¹⁰ Both organizations are partnering with the American Society for Health-Systems Pharmacists (ASHP) for the purpose of authoring a Parenteral Nutrition in EHRs white paper.

DEVELOPMENT OF COMPETENCIES/EDUCATION STANDARDS FOR NUTRITION INFORMATICS

Informatics education and competencies for nutrition and dietetics practitioners are critical to the continued growth and impact of nutrition informatics. In 2010, the Academy formed a task force on nutrition informatics competencies, surveyed the membership, and later published *Nutrition Informatics Competencies across All Levels of Practice—A National Delphi Study*.¹¹

The goal of the survey was to develop competencies for all areas of practice—from practitioners to informaticians—and integrate the findings into practice. Beginning on June 1, 2016, the Commission on Dietetic Registration, the credentialing agency for the Academy, adopted an Essential Practice Competencies (or current practice expectations) plan for continuing education 5-year plan requirements. Informatics is one of the nine spheres required as the result of newly developed and nationally validated practice competencies.¹² Additional work is underway to integrate informatics into the education, training, and practice of Academy members. In addition, beginning in 2024, entry-level registration eligibility education requirements for RDNs move from a baccalaureate to a graduate degree.

To support the acquisition of practice skills, additional work is necessary to support informatics education in

nutrition and dietetic programs. The Accreditation Council for Education in Nutrition and Dietetics (ACEND) is the autonomous accrediting agency for dietetic education programs preparing students for careers as RDNs or DTRs. Dietetic education programs meeting the accreditation standards are accredited by ACEND. Informatics competencies are necessary for accredited programs to prepare competent professionals for entry-level positions and beyond.¹³

ADJUSTING TO RAPID EVOLUTIONS IN HEALTH IT

With the passage of the Health Information Technology for Economic and Health (HITECH) Act in 2009,¹⁴ the Academy provided resources for regular in-person attendance at the Health IT Standards Committee and the Health IT Policy Committee Meetings, which occurred monthly in Washington, DC, and public comment on rules, including participation in health IT adoption initiatives.¹⁵ Comments on Proposed Rules, policy, and other guidance have been consistently submitted by the Academy since 2009 in efforts to ensure that nutrition care is included in relevant health IT certification, regulations, and policy moving forward. Although RDNs are not included as Eligible Professionals in the HITECH program, many RDNs do work at Eligible Hospitals, and we must ensure that RDNs can practice effectively in all health information systems so that nutrition data follow the patient.¹⁶

During this time, the importance of health IT standards became critical to ensure consistency in data collected and to support the mandate for interoperability. The Academy continues to advocate for nutrition inclusion in Certified Health IT certification criteria,¹⁷ in yearly Interoperability and Standards Advisories,¹⁸ and in the Shared Interoperability Roadmap.^{19,20}

Standardized Nutrition Terminology

Nutrition in health IT standards development is based on the Academy's Nutrition Care Process (NCP), a systematic approach to providing high-quality nutrition care. This process provides the framework for nutritionists to individualize care, based on the

patient's or client's needs and conditions by using evidence-based nutrition science.²¹ Four areas make up the NCP: Nutrition Assessment, Diagnosis, Intervention, and Monitoring/Evaluation. Nutrition terminology that supports each of the four areas of the NCP was created by the Academy. The electronic Nutrition Care Process Terminology (eNCPT) is an online subscription containing a narrative explanation of the NCP, using nutrition terminology.²²

As the need for common terminology across care settings evolved, the Academy mapped existing eNCPT terms to the Systematized Nomenclature of Medicine-Clinical Terms (SNOMED-CT) and the Logical Observations Identifiers Names and Codes (LOINC). This mapping is critical to ensuring that nutrition care provided per the eNCPT is documented using coded terms in SNOMED-CT and LOINC. A mapping spreadsheet is included with any license of the eNCPT; likewise, value sets in the National Library of Medicine's (NLM's) Value Set Authority Center (VSAC)²³ identify terms used in templates for the HL7 C-CDA Release 2.1 and electronic Clinical Quality Measures. These value sets may be downloaded by practitioners, EHR vendors, and anyone with a complimentary Unified Medical Language System (UMLS)²⁴ license, available on the National Library of Medicine website.

Guiding Nutrition Best Practices in Health IT

As trained nutrition experts, RDNs and NDTRs work across care settings to optimize the nutrition care of individuals and the population. Likewise, they are best able to articulate the necessary workflows, requirements, and organization-specific requirements of their clients or patients. Knowledge of such requirements as past Joint Commission requirements, such as nutrition screening performed within 24 hours of admission, with a referral sent to the nutritionist for at-risk patients, must be harmonized between nursing workflow, nutrition care, and referrals. A Centers for Medicare & Medicaid Services (CMS) rule that took effect on July 11, 2014, provided changes that would, among other things, "save hospitals significant resources by permitting RDNs to order

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