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A Decade of Work Coming Together: Nutrition Care, Electronic Health Records, and the HITECH Act

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Ten years of strategic direction and resource development by the American Dietetic Association (ADA) has positioned the profession for nutrition care integration into health information technology (HIT), specifically electronic health records (EHRs) and personal health records (PHRs). New legislation included in the American Recovery and Reinvestment Act (ARRA) (1) creates an unprecedented opportunity to bring this work in to the spotlight, improve health care, and promote evidence-based decision-making for nutrition care using HIT. Registered dietitians (RDs) and dietetic technicians, registered (DTRs) are positioned to become leaders in this area.

The purpose of this article is to identify ADA resources appropriate for use in EHR adoption and detail related elements of ADA's Health Information Technology for Economic and Clinical Health (HITECH) Action Plan (2) that provide immediate opportunities for RDs, DTRs, and the profession.

BACKGROUND ON THE HITECH ACT

Within a month of taking office, President Barack Obama encouraged Congress to pass the HITECH Act (3), a component of the ARRA that continues President George W. Bush's mission to provide an EHR for every American by the year 2014. While the 2004 Executive Order from President Bush set forth considerable work to advance widespread adoption of

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EHRs, the progress has been slow. Recent studies on the adoption of EHRs showed that only 20%–21% of physicians have adopted a basic (which some question as functional) system (4–6). The HITECH Act codified the Office of the National Coordinator of Health Information Technology (ONC) (7) and established as law (including an ambitious timeline written into the law) the need for coordination of a HIT infrastructure and incentive program for adoption of EHRs. This timely legislation set forth a framework to accomplish EHR adoption in three distinct phases during the next 5 years (8).

Perhaps the most succinct description of the HITECH Act was delivered by David Blumenthal, MD, MPP, during an Institute of Medicine Conference on a “Learning Health System” (9), held on April 1–2, 2010 in Washington, DC. Blumenthal said that the HITECH Act is perhaps best described as all the issues of health care we have discussed during the past 10 years—rolled into one law. Name a health care solution, issue, concept, evidence or problem, and there have been discussions on it during the ONC committee meetings: medical home, quality measures, privacy and security, standards and vocabularies, clinical care, evidence-based medicine, health care disparities, consumer engagement—the list is exhaustive. Perhaps the most impressive component of the HITECH Act is the strategic goal of improving health care. The intention is not to simply adopt health technology, but to use technology as a tool for continuous health care improvement.

STRUCTURE AND OPERATIONS OF HITECH

The framework of the HITECH Act established two Federal Advisory Committee Act committees who report to National Coordinator Blumenthal and the ONC on how best to implement the Act. Recommendations then go to Department of Health and Human Services Secretary Kathleen Sebelius, MPA, whose office works with the ONC and the Centers for Medicare and Medicaid Services (CMS) to draft proposed rules. The entire process is one of transparency and open public comment. The two committees, the ONC Policy Committee (10) and the ONC Standards Committee (11), each have multiple work groups, all of which work in tandem to create the best framework.

Both the committees and work groups have relied upon experts by subject area to provide education and recommendations on best practices and use of HIT to provide care. All of this content is in the public domain and recordings/transcripts are available on the ONC Web site (12). ADA has used this structure to provide written and public comment on nutrition care, participate with other health care providers impacted by this law, and optimize existing ADA resources to align nutrition care standards with the harmonized process taking place.

OBJECTIVE AND GOALS OF THE HITECH ACT

The HITECH Act focuses on several recurring goals that drive the decisions on other areas related to EHR adoption and use.

These goals include:

- Ensure privacy and security protections for personal health information.
- Improve population and public health.
- Improve care coordination.
- Engage patients and families.
- Improve quality, safety, and efficiency and reduce health disparities.

An underpinning of these goals is the expectation of interoperability—or the ability to exchange patient data between facilities efficiently. Interoperability is perhaps best defined

as the data being present for the right patient, at the right place, at the right time (see Figure 1).

CORE COMPONENTS OF HITECH

During the months of March through May of 2010, grants were awarded to support rapid development of all programs included in HITECH.

The opportunities of HITECH can best be understood in the context of three interrelated areas:

1. **EHR Incentive Program:** Provides financial incentives for Medicaid/Medicare “eligible providers” (EPs) (which as of yet, does not include dietitians) who adopt “meaningful use” certified EHR technology in the efficient delivery of health care. The incentive program is being implemented in three different phases, each one intended to build upon the knowledge learned from the preceding phase. Implementation years are Phase 1 (2011), Phase 2 (2013), and Phase 3 (2015).

Relevance to nutrition:

Proof of adequate EHR implementation is built upon the ability for providers to self-report back to CMS their patient’s quality measures (as defined by CMS). Quality measures will continuously be refined and introduced as part of the program over each phase. This allows for inclusion of nutrition-related parameters which document desired outcomes. Due to the acknowledged lack of proven quality indicators, this provides a willingness to consider any documented measures which potentially improve care.

As physicians and small critical access hospitals adopt HIT under this program, dietitians will have a unique opportunity to advocate for the inclusion of nutrition standards and care processes during planning and implementation.

2. **HIT Infrastructure:** Create an infrastructure of support for nationwide adoption efforts, creation of best practices in implementation, use of EHRs, and focus on health care improvement through consistent quality measures reporting. The ONC is the governing body of the infrastructure.

Programs most relevant to nutrition are:

- **Beacon Community Center Program**

Beacon Community Programs are fifteen demonstration projects awarded to expert facilities and communities who have been utilizing HIT to improve health care. They are charged with showing how HIT can help providers and consumers develop innovative methods for sustainable, measurable, and efficient health care.

- **Regional Extension Center Programs**

Regional Extension Centers are organized centers for technical assistance, guidance, and information on best practices to support EPs’ efforts to become meaningful users of EHRs. There are 60 RECs representing every geographic region of the United States which are responsible for supporting primarily the small practitioner offices as they adopt EHRs. This program is modeled after the US Department of Agriculture’s Cooperative Extension Service.

- **Health Information Exchanges (HIE)**

A total of 56 states, territories, and qualified State Designated Entities have received awards and are charged with accelerating the transfer of data both within and across communities. HIEs provide the capability to move electronically clinical information between disparate health care information systems while maintaining the meaning of the information being exchanged. The goal of HIE is to facilitate access to and retrieval of clinical data to provide safe, timely, efficient, effective, equitable, patient-centered care. In terms of nutrition care, it will be important to assure that the correct nutrition care plan, referrals, and diet orders at a minimum travel with other patient data.

3. **Workforce Development:** ONC estimates that at least 51,000 individuals trained in the adoption and use of EHRs will be needed over the next five years. ONC has established two programs--the University Based Training (13) and Community College Consortia (14) programs--to rapidly train these professionals.

THE CASE FOR “MEANINGFUL USE”

Perhaps one of the best known phrases in HIT presently is *meaningful use*. Meaningful use represents the “proof” in terms of reporting requirements to prove that EPs are using EHR technology to provide quality health care. The definition will be modified for each of the three phases of HITECH. The HITECH Act will not allow for adoption of technology simply for the sake of the technology. Providers must abide by the requirements of meaningful use in order to receive their incentive payments. In essence, EHRs must be implemented in such a way that they are used for improving health care. Since data will be captured in electronic format, this will allow improved evaluation of existing care; the improvement of clinical processes based upon best practices and, ultimately, improved health outcomes for individuals and the population (see Figure 2).

EHRs are here to stay and nutrition must move in tandem with other health care professions to assure that nutrition care is included in health care delivery at all levels and situations. Assuring nutrition is included in EHRs also further validates the critical need for RDs and DTRs in health care settings. If this opportunity is missed, will nutrition still be included in EHRs? Most likely—however, speed to implementation, collaboration with other health professions, the cost to integrate nutrition will be exponentially higher, and some opportunities will be lost completely. The HITECH Act provides a perfect mechanism for this goal. Perhaps the greatest challenge is the rapid timeline written into the statute of the HITECH Act and the need to promote consistency and standards in nutrition care.

THE STANDARDS DILEMMA

A critical area of work by the HITECH committees during the past year has been on the harmonization of standards for health care. A standard is:

“A well-defined approach that supports a business process, and which has been developed by a group of experts; has been publically vetted; provides rules, guidelines, or characteristics; helps to ensure that materials, products, processes, and services are fit for their intended purpose; is available in an accessible format; and is subject to ongoing review and revision”(15).

The committees of HITECH have utilized decades of work in health standards to drive harmonization necessary for consistent data use and interoperability in EHRs. Due to multiple references for a single term, this harmonization is mandatory for data exchange. Standards harmonization is necessary when a proliferation of standards prevents progress, rather than enables it (16). Otherwise, computer systems will not be able to share data: if one

system uses “term X” for glycosylated hemoglobin and another uses “term Y,” these will not be used as the same term in shared data. This creates duplicate and conflicting data, which will not be useful for patients or population health.

Despite tremendous efforts, there is no single health terminology/vocabulary to date. Multiple vocabularies have been developed which satisfy domain specific areas: International Classification of Diseases-9/10 (ICD 9/10) and Clinical Procedure Terminology (CPT), Logical Observation Identifiers Names and Codes (LOINC), United Medical Language System (UMLS), and Systematized Nomenclature Of Medicine Clinical Terms (SNOMED-CT) to name a few. ADA has developed a nutrition specific standard vocabulary, the International Dietetics & Nutrition Terminology (IDNT), which will help support consistent documentation of nutrition care in the EHR.

Now established as regulation, the Standards and Certification Interim Final Rule (17) represents the “first step in an incremental approach to adopting standards, implementation specifications, and certification criteria to enhance the interoperability, functionality, utility, and security of HIT and to support its meaningful use.”

ADA STANDARDS AND RESOURCES

The following standards and processes established for nutrition care provide support and information as EHRs are adopted.

Parallel Work of ADA in the Area of EHRs

Strategic planning and direction supported by ADA related to adoption and use of EHRs with nutrition inclusion include:

- Nutrition Care Process/Standardized Language Committee (18) continues work on creation, maintenance, and implementation of nutrition-related standards.
- Continued work on the complementary tools—Nutrition Care Process and Model (NCPM) and IDNT. 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 also 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 EHR for every American by 2014. A single set of defined terms, the IDNT will facilitate including RD activities in not only EHRs, but also in policies, procedures, rules, and legislation.
- Nutrition Informatics Committee (19) (Began June 1, 2010) charged with implementation of recommendations by the Nutrition Informatics Work Group Report to the Board of Directors (Fall 2009) (20).
- Clinical Nutrition Management Dietetic Practice Group – Nutrition Informatics Sub-group, many of whom are present users of NCPM and IDNT in their own EHR.
- ADA Board of Directors Approval of the HITECH Action Plan, a strategic plan to respond to HITECH driven initiatives to integrate nutrition care into the adoption of EHRs.

Timeline of ADA Work and Federal HIT Initiatives

Concurrent work of ADA-related initiatives and federal HIT programs have created a very active period of integration and collaboration. This parallel work has provided an unprecedented opportunity for stronger presence in patient care, namely by inclusion of nutrition standards, processes, and clinical documentation in EHRs (see Figure 3).

HOW TO BECOME INVOLVED

Place of Work

- Regardless of the local or setting, inquire to management about the plans for integration and adoption of HIT (typically in the form of an EHR) at your facility.
- Volunteer to serve on a committee (typically an EHR adoption team), identify resources, and support the process in an effort to improve efficiency and health care outcomes. Build awareness of HIT within nutrition peers and champions at your facility.
- Collaborate with other non-physician providers (eg, physical therapists, occupational therapists, social workers, physician assistants) to learn of their work and direction in this area.
- Utilize ADA collaborations with the American Medical Informatics Association (21) (who modified the June 2010 “10×10” Course on Biomedical Informatics for Nutrition experts) and the Health Information Management and Systems Society (22) (who is collaborating on nutrition informatics advancement) to learn more about EHRs.
- If you see patients, begin to inquire about their use of PHRs; investigate and start a PHR of your own so you appreciate the process involved as consumers/clients/patients begin to adopt their own technology.
- Follow DPG activities and educational opportunities related to EHRs, HIT, or the HITECH Act.

State Level Activities

- Inquire with your state HIT committees as to the local plan for HIT adoption. Research the state Web site of these programs (typically the state health care commission or board) to determine the scope (how many providers they hope to involve), the infrastructure and the opportunities for stakeholders to become involved and/or contribute.
- Identify your state program on Health Information Exchange (23), typically found as an entity within a state or multiple state region.
- Follow Affiliate activities and educational opportunities related to EHRs, HIT, or the HITECH Act.

Training and Continuing Education

- Consider additional training in informatics, such as any of the informatics training programs available virtually or in person across. A list of such programs is on the Eatrigh.org website in the Nutrition Informatics section. American Medical Informatics Association’s 10×10 Course in Biomedical Informatics (24).
- Determine if you are eligible for either of the HITECH workforce training opportunities: the Community College Consortia to Educate Health Information

Technology Professionals Program or the Program of Assistance for University-Based Training (see Figure 4).

- Consider additional training at any of the informatics programs available throughout the country (25).

ADA Initiatives

- Familiarize yourself with the resources useful for integration of nutrition into EHRs (see Figure 5)
- Network with others who have utilized the NCPM and/or IDNT for nutrition care in EHRs during “Open Space” Sessions (one on EHRs and one on nutrition informatics) at ADA’s Food & Nutrition Conference & Expo (26).
- Follow and post comments/questions on the Nutrition Informatics Blog (27) on ADA’s Web site: www.eatright.org/Media/Blog.aspx?BlogID=6442451184.

The HITECH Act provides the infrastructure and collaboration necessary to accelerate the inclusion of nutrition care in EHRs. This process has already begun with the coordinated efforts of ADA staff, members, and practitioners in the field. RDs and DTRs in all areas of practice have opportunities at the local and state level to participate in this exciting work. Keeping the mission and goals of the HITECH Act in mind, the present environment allows for an unprecedented opportunity to contribute to the improvement of health care and its delivery, and to take part in unique educational opportunities for professional growth.

Acknowledgments

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Figure 1.

This map shows how a byproduct of the HITECH Act, the “Nationwide Health Information Network” will allow patient data to be exchanged within and across facilities via the internet for the purpose of improving health care provision. This can only be accomplished with a harmonized set of standards, specifications and agreements, used collaboratively within the provider framework. Reference: Dr. David Blumenthal “ONC Overview” presentation at HIT Policy Committee Meeting 12-15-2009.

Figure 2.

Long-range purpose of meaningful use strategy: improved outcomes over time by using data to improve clinical processes. From ONC Policy Committee Presentation by Dr. David Blumenthal January 13, 2010.

Figure 3.

Federal health information technology (HIT) timeline in relation to American Dietetic Association timeline on nutrition-related issues. ^aHITECH= Health Information Technology for Economic and Clinical Health. ^bEHR=electronic health record. ^cPHR=personal health record. ^dNI=nutrition informatics. ^eCmtte.=committee. ^fARRA= American Recovery and Reinvestment Act.

The two primary components that support additional training of health information technology professionals include the Community College Consortia and the Program of Assistance for University-Based Training.		
Community College Consortia^b Community colleges funded under this initiative will establish intensive, non-degree training programs that can be completed in 6 months or less.	Determine RD/DTR ^c interest/applicability for the following jobs supported by this program: <ol style="list-style-type: none"> 1. Practice workflow and information management redesign specialist 2. Clinician/practitioner consultant 3. Implementation support specialist 4. Implementation manager 5. Technical/software support staff 6. Trainer 	Background: <ul style="list-style-type: none"> • Training at all Consortia member colleges began September 30, 2010. • Training is designed to be completed within 6 months or less. • The programs will be flexibly implemented to provide each trainee with skills and competencies that he/she does not already possess. • The anticipated training capacity of the Consortia as a whole is expected to be at least 10,500 students annually.
Program of Assistance for University-Based Training^d Grant program to rapidly increase the availability of individuals qualified to serve in specific health information technology professional roles requiring university-level training.	Determine RD/DTR interest/applicability for the following jobs supported by this program: <ol style="list-style-type: none"> 1. Clinician/public health leader 2. Health information management and exchange specialist 3. Health information privacy and security specialist 4. Research and development scientist 5. Programmers and software engineer 6. Health information technology sub-specialist 	Links to the programs where the training programs will begin are on the Nutrition Informatics Blog at www.eatright.org . These programs are ones that students can complete in one year or less, such as certificates of advanced studies and master's degrees that do not require a thesis or equivalent major research project. Training may be either online, in person, or a combination of both.

Figure 4.

HITECH^a Act program of workforce development ^aHITECH=Health Information Technology for Economic and Clinical Health. ^b<http://tinyurl.com/2afsm5s>. ^cRD/DTR=registered dietitian/dietetic technician, registered. ^d<http://tinyurl.com/2347wvv>.

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