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November 20, 2017

Don Rucker, MD
National Coordinator for Health Information Technology
Office of the National Coordinator for Health
Information Technology (ONC)
Hubert H. Humphrey Building
Suite 729D
200 Independence Ave, SW
Washington, DC 20201

Dear Dr. Rucker:

The Academy of Nutrition and Dietetics (the "Academy) is pleased to comment to the Office of the National Coordinator of Health Information Technology (ONC) on the *2018 Interoperability and Standards Advisory: Best Available Standards and Implementation.* With more than 75,000 registered dietitian nutritionists (RDNs),[1] dietetic technicians, registered (DTRs), and advanced-degree nutritionists' members, the Academy is the largest association of food and nutrition professionals in the United States. Our organization envisions *a world where all people thrive through the transformative power of food and nutrition*.[2] We are committed to accelerating movement in global health and well-being through food and nutrition, by ensuring that nutrition is included in relevant health information technology (health IT) standards.

The Academy has provided resources necessary to ensure nutrition data remains a part of treatment team data and that nutrition care follows the patient as needed for health IT adoption. Nutrition related standards, terminologies and implementation guidance relevant to assuring nutrition care are included in our comments.

The Academy respectfully submits the following comments for consideration, in response to questions posed in the Standards Advisory:

General
17-1: In what ways has the ISA been useful for you/your organization as a resource? The ISA provides guidance for food and nutrition professionals who are working with facility and vendor level implementers. While the Academy has foundational guidance available to members (e.g. Nutrition

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[1] The Academy recently approved the optional use of the credential "registered dietitian nutritionist (RDN)" by "registered dietitians (RDs)" to more accurately convey who they are and what they do as the nation's food and nutrition experts. The RD and RDN credentials have identical meanings and legal trademark definitions.

[2] Academy of Nutrition and Dietetics Mission Statement available from: http://www.eatrightpro.org/resources/about-us/academy-vision-and-mission

Care Process[3], Evidence Analysis Library[4], etc.), there is considerable difficulty in aligning nutrition work flow, appropriate functionality and reporting in health IT. At present, most EHR vendors do not provide a standardized nutrition module in their base EHR. This often creates financial constraints, as well as time and resource limitations when designing custom nutrition functionality. The ISA serves as a reference point for vendors looking for nutrition content available for use when otherwise they may not have been informed.

17-3 An Appendix II has been added that includes educational and informational resources as recommended by the health IT standards Committee/2017 ISA Task Force. Are there other topics and/or existing resources which would be helpful to include in this area to increase stakeholder understanding of health IT interoperability issues?

Expanding the resources in this area would be helpful, including areas where there are "best practices" and/or work underway (e.g. pediatric focus, parenteral nutrition order interoperability).

General Questions:

3: For each standard and implementation specification there are six assessment characteristics, for which detailed information has been received and integrated. Please help complete information that is missing or noted "feedback requested'.

Section I: Vocabulary/Code Set

We appreciate the inclusion of food allergies with other allergies and encourage this to become a part of certified health IT. Ongoing work in this area at HL7 has supported the creation of "starter" allergy value sets. As a result of frequency data collected on 100 million patients by the HL7 Patient Care Allergies and Intolerances Work Group, there are now distinct value sets[5] which we propose should be starter sets intended to improve interoperability. Additional context specific entries should be made available so that free text is used for exceptions. The value sets provide consistent coding and designation that provides a foundational starting point for implementations of drug, food and environmental allergies.

In addition, similar work to include food allergies along-side of other allergies is represented in the FHIR Allergy[6] . This work is built upon the Allergy and Intolerances Domain Analysis Model[7].

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[3] The Nutrition Care Process is a systematic approach to providing high quality nutrition care which includes four processes completed by RDNs: nutrition assessment, diagnosis, intervention and monitoring and evaluation. http://www.eatrightpro.org/resources/practice/nutrition-care-process, accessed on November 20, 2017.

[4] Academy of Nutrition and Dietetics Evidence Analysis Library: available from https://www.andeal.org/default.cfm.

[5] HL7 Cross-Paradigm Specification: Allergy and Intolerance Substance Value Set(s) Definition, Release 1 (PI ID: 1272) balloted as informative ballot in September 2017, with plans to repeat the informative ballot for January 2018.

[6] HL7 Version 3 Allergies and Intolerances. Health Level Seven website: available from http://wiki.hl7.org/index.php?title=Allergy_%26_Intolerance#Allergy.2FIntolerance_Topic_DSTU .

[7] HL7 Allergy and Intolerances Domain Analysis Model: available from http://wiki.hl7.org/images/1/1b/Allergy_and_Intolerance_INFORM_2013_MAY.pdf.

8. Are there additional Social Determinant Interoperability Needs with corresponding standards that should be included in the ISA?

The inclusion of these areas is particularly important due to many non-clinical situations which impact health and well-being. The Academy recommends inclusion of additional data surrounding food availability and access. Included in the Nutrition Care Process Terminology are additional factors such as such as those listed below; mapping and/or creation of nutrition focused value sets would be helpful. While all data elements may be more realistic for nutrition care documentation, there are other factors impacting safe food and nutrient intake besides a limitation of financial resources.

- impaired ability to prepare food
- meals, food safety access
- intake of unsafe food
- limited access to food
- safe food/meal availability
- availability of shopping facilities
- procurement of safe food
- appropriate meal preparation facilities
- Availability of safe food storage
- Appropriate food storage technique
- Identification of safe food
- Safe water availability
- Availability of potable water
- Appropriate water decontamination

Section II: Content /Structure

10. The way FHIR is represented has changed in the ISA based on feedback.

Clarification requested concerning the new method for representing FHIR Resources.

Subsection II-G: Diet and Nutrition was added. Please review and provide additional comment about the accuracy of the attributes.

We appreciate the inclusion of Nutrition/Diet Orders and work to continue the development and maturity of nutrition relevant standards and attributes. Nutrition orders represent an actual order within a treatment facility and/or the chosen dietary regime that a patient is adhering to on the advice of a dietitian/nutritionist, a physician and/or at their own choosing. In patient care facilities, an order must be placed before the patient is fed. Due to broad variances in the way these orders are placed and very limited exchange of nutrition orders between facilities, the Academy has developed a framework for the development of Health Level 7 (HL7) Fast Healthcare Interoperability Resources Nutrition Orders. This Nutrition OrderResource is built upon foundational work within the HL7 Version

3 Domain Analysis Model: Diet and Nutrition Orders, Normative, Release 2[8], and the Nutrition Orders Clinical Messaging, available under the Nutrition Management[9] section of HL7 Orders and Observations. At present, the FHIR Nutrition Order standard represents the best and most comprehensive nutrition order guidance; this standard has been tested and will be tested in HL7 Connect-a-thons using the Care Plan track. Additional work in FHIR that supports the "nutrient intake" and other aspects of nutrition care is underway.

New work is underway to create nutrition focused Implementation guidance for optional nutrition content included the Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm), Draft Standard for Trial Use, Release 2.1.[10] Work is underway to create a HL7 CDA R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Nutrition, STU, Release 1[11]. A HL7 Project Scope Statement has been approved and Notice of Intent to Ballot submitted for January 2018 HL7 Working Group Meeting. Based upon the significant addition of nutrition care and planning in the C-CDA R2.1, we request that this implementation guide be included in the 2018 ISA. Value sets that bind to this Implementation Guide and which map to the definitions and context of the electronic Nutrition Care Process Terminology[12] are critical for semantic interoperability.

We also recommend that specific nutrition specific data be part of the common clinical data set, as these attributes are represented in this Implementation Guide and across care settings. Specifically nutrition risk screening, malnutrition, diet orders, nutrition problem/diagnosis and risks such as weight changes over time are recommended. In Transitions of Care settings, diet orders (including parenteral or enteral nutrition or therapeutic diets) are areas of high risk that should follow the patient. Likewise, the incidence and outcomes and of malnutrition has prompted the Academy to create the Malnutrition Quality Improvement Initiative (MQii)[13] and development of four Malnutrition electronic Clinical Quality Measures[14]. We continue to develop capabilities that support optimal nutrition care across care settings.

Subsection II-K: Healthy Weight was added. Please review and provide additional comment about the accuracy of the attributes.

We have participated in revisions to this guide and look forward to pilot results. There appears to be content in the guide that needs updated. It would be advantageous to cross-walk this IHE profile with other nutrition and physical activity artifacts from HL7. This profile was used successfully in an

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[8] HL7 V3 DAM: Diet and Nutrition Orders, R2, Normative available from: https://www.hl7.org/implement/standards/product_brief.cfm?product_id=289

[9] HL7 Nutrition Management. Health Level Seven website available from: http://wiki.hl7.org/index.php?title=Nutrition_Management.

[10] https://www.hl7.org/implement/standards/product_brief.cfm?product_id=408

[11] HL7 CDA R2 Implementation Guide C-CDA R2.1 Supplemental templates for Nutrition, STU, Release 1: available from http://wiki.hl7.org/index.php?title=C-CDA_R2.1_Supplemental_Templates_for_Nutrition,_Release_1_(US_Realm)

[12] Nutrition Care Process Terminology: available from https://ncpt.webauthor.com/about

[13] Malnutrition Quality Improvement Initiative: available from http://mqii.defeatmalnutrition.today/

[14] Malnutrition Electronic Clinical Quality Measures: available from http://www.eatrightpro.org/resource/practice/quality-management/quality-improvement/ecqms-frequently-asked-questions#what-are-ecqms

Interoperability Showcase in the past; clarification is needed if the healthy weight documentation for an individual is accurate enough for BMI surveillance. More information is needed.

Section IV: Models and Profiles

We support the inclusion of the EHR Functional Model and PHR Functional Model as a framework of EHR/PHR requirements.

In regards to the Electronic Nutrition Care Process Record System (ENCRPRS) Functional Profile Release 1, STU[15], the Academy has submitted a Project Scope Statement to HL7 (Universal Realm) with plans to ballot the profile as normative in May 2018. Efforts also are in progress to expand the depth and frequency of adoption to ensure increased interoperability through use of the standard at the international level.

Conclusion
The Academy appreciates the opportunity to comment on interoperability standards. We appreciate the dedication and guidance of ONC, which is necessary to ensure Health IT adoption evolves to support optimal health and health care. We remain committed to continued work to ensure nutrition inclusion in health IT standards and implementation specifications. Please contact me by email at lhoggle@eatright.org or at 800-877-0877 ext. 6014 with any questions or requests for additional information.

Sincerely,

Lindsey Hoggle, MS, RD, PMP
Director, Nutrition Informatics
Academy of Nutrition and Dietetics

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[15] HL7 EHR-System Electronic Nutrition Care Process Record System (ENCPRS) Functional Profile, Release 1. http://www.hl7.org/implement/standards/product_brief.cfm?product_id=369