Enhancing the National Drug File – Reference Terminology (NDF-RT) for Meaningful Use

The Veterans Health Administration (VHA) National Drug File – Reference Terminology (NDF-RT) is a medication reference terminology for electronic health records (EHRs). Several component NDF-RT drug classifications and their hierarchies have been designated as Federal Medication Terminologies (FMT). The Food and Drug Administration (FDA) is using those components to index the pharmacologic classification of active ingredients in the Structured Product Labeling (SPL) initiative. Other agencies and organizations are constructing value sets (e.g., drug allergy classes) using approved NDF-RT component terminologies.

The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted in 2009, supports the meaningful use (MU) of interoperable EHRs throughout the United States health care delivery system as a critical national goal, an effort led by Centers for Medicare & Medicaid Services and the Office of the National Coordinator for Health IT. Meaningful Use is defined as using certified EHR technology in a manner meeting nationally-specified standards and objectives, for example, electronic prescribing; ensuring that the EHR achieves the electronic exchange of interoperable health information to improve the quality of care; and submitting information on Clinical Quality Measures and other quality of care measures periodically to the Secretary of Health & Human Services.

To facilitate the meaningful use of its content and knowledge in EHRs, the NDF-RT semantic model has been enhanced. Relationships between concepts now explicitly identify which source or authority asserted them. Conflicting assertions from different authorities regarding the pharmacologic classification or indexing of an ingredient will be allowed to coexist, labeled clearly in the knowledge base. Selected NDF-RT concepts and externally specified inter-concept relationships from certain nationally-designated Value Sets (VS) will also be labeled by source or authority. These enhancements will facilitate the extraction of relevant content subsets and value sets for MU from NDF-RT.

Effective immediately in the March 2014 release, all NDF-RT role relationship names now have a source authority tag suffixed in {curly brackets}. Legacy role relationships will be re-named with an {NDFRT} suffix (e.g., “has_MoA {NDFRT}”), as will future roles asserted by NDFRT or VA subject matter experts. Role relationships recommended by FMT subject matter experts for FDA Established Pharmacologic Class [EPC] concepts will have an {FMTSME} authority suffix (e.g., has_MoA {FMTSME}).

In the near future, NDF-RT will be populated with FDA SPL pharmacologic class indexing content published via the National Library of Medicine (NLM) DailyMed. Role relationships assigned by FDA to active ingredient moieties from the SPL will be incorporated into NDF-RT with an {FDASPL} authority suffix (e.g., “has_MoA {FDASPL}”). Active ingredients will also appear as child concepts in an FDA Established Pharmacologic Class [EPC] hierarchy, as per FDA SPL content.

Key NDF-RT-derived value sets will be marked appropriately in NDF-RT within a reasonable time frame after NLM publication. For more information on the new role names, the Value_Set property, the PharmClass_Member association relationship, and supplemental qualifiers, refer to the official NDF-RT Documentation and future monthly Release Notes.