

Introduction to MED-RT as the Replacement for NDF-RT™

The new Medication Reference Terminology (MED-RT) is the evolutionary successor to the Veterans Health Administration's National Drug File – Reference Terminology (VHA NDF-RT™). Both are formal ontological representations of medication terminology, pharmacologic classifications, and asserted authoritative relationships between them. MED-RT is released on the same monthly schedule as its predecessor NDF-RT, in XML and other formats. MED-RT™ release files are available from the National Cancer Institute Enterprise Vocabulary Services (EVS) on the [Federal Medication Terminologies](#) webpage. MED-RT™ content is also integrated into the NLM's Unified Medical Language System (UMLS) bi-annual releases, available on the [UMLS](#) webpage, to UMLS licensees in May and November.

A *reference* terminology provides common semantics for diverse implementations and is defined by Mayo as “a terminology in which concepts have a formal, machine-usable definition supporting data aggregation and retrieval.” As such, MED-RT has been enhanced to rely on relationships or mappings involving concepts in selected, official standardized terminologies, now referenced externally rather than incorporated piecemeal, as was done in NDF-RT.

RxNorm, a formal standardized medication terminology published by the National Library of Medicine (NLM), replaces the VHA National Drug File (NDF) formulary in MED-RT, as a richer source of currently prescribable medications, active ingredients, and their inter-relationships. RxNorm provides normalized names for medications, as well as enabling interoperability with VHA NDF and many of the commercial drug vocabularies commonly used in pharmacy management systems. Other standardized terminologies referenced in MED-RT include the Medical Subject Headings (MeSH) from NLM, using its concept hierarchies for chemical structure and therapeutics indexing; and the Systematized Nomenclature of Medicine -- Clinical Terms (SNOMED CT) from SNOMED International, facilitating FDA established pharmacologic class mapping into its product and substance hierarchies.

MED-RT preserves and publishes most of NDF-RT's asserted pharmacologic classification relationships. It also maintains the mechanisms of action (MoA) and physiologic effects (PE) hierarchy concepts designated as [National Committee on Vital and Health Statistics \(NCVHS\) standards](#) to describe medication pharmacologic classification, specified as components of the [Federal Medication Terminologies \(FMT\)](#) initiative.

The [Structured Product Labeling \(SPL\)](#) initiative by the Food and Drug Administration (FDA) relies on concepts from MED-RT MoA, PE, and other classifications to index active moieties in FDA established pharmacologic classes (EPC) within the SPL. A team of FMT Subject Matter Experts (FMT SME) reviews agency requests, recommending MED-RT enhancements and indexing, which FDA takes into consideration when releasing its FDA SPL pharmacologic classification indexing.

MED-RT publishes all its asserted relationships identified by their authoritative source(s). Conflicting assertions from different authorities regarding pharmacologic classification, indexing, or mapping can coexist, labeled clearly in the database to facilitate subset extraction. MED-RT disseminates new MED-RT-owned or legacy NDF-RT relationships, FMT SME recommendations, and official FDA SPL pharmacologic classifications.