



Federal Health Information Model (FHIM) Supporting Effective, Secure Health Information Exchange

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Federal Health Information Model



- » A Logical Information Model of Health Data developed in collaboration with the federal agencies
- » Harmonizes content (information, terminologies and value sets) across federal partners and standards organizations
- » Integrated with open source Model Driven Health Tools (MDHT)
- » Can generate HIE Implementation standards for multiple Platform Specific Models (PSMs)



- » FHIM is complete, concise, correct, consistent
 - Mature clinical domains are complete
 - Leverages years of federal agency expert guidance
- » FHIM keeps pace with advances in
 - Standards & Terminologies
 - Examples: HL7, SNOMED, LOINC, RxNorm, NCPDP, etc.
 - Implementation Resources
 - Examples: FHIR, CDA, etc.
 - ONC sponsored initiatives
 - Examples: CQF, SDC, DAF
 - Tooling
 - IBM RSA, Sparx EA, MDHT

What is FHIM



FHIM (Federal Health Information Model) FHIM is a single authoritative and consistent source to support the exchange of health information. It is a harmonization between HL7 V2, CDA, FHIR, NCPDP Script, NCPDP Telecom, and to a lesser extent, ASC X12.

- » FHIM is the **common** logical **information** model that several of these standards (including FHIR) don't have; **where, FHIM/MDHT/MDMI** can generate **consistent** Implementation Guides and Profiles using MDHT in CDA, NIEM, and FHIR.
- » The FHIM can be used to bridge between the multiple standards that our stakeholders are required to implement (e.g., MU requires both HL7 V2 and CDA standards). Even though the wire representations are different, the FHIM provides a common business understanding of the data elements and provides a means to generate the different formats in a manner that is **consistent and compliant across the underlying standard and implementation paradigms**.
- » Developed in collaboration with the federal agency **subject matter** experts
- » Harmonizes content (information, terminologies and value sets) across federal partners and standards organizations so standards-based solutions **are consistent and** work as intended. Facilitates modeling once, applying anywhere

FHIM is an authoritative source informed by



- » Federal Partners, including, but not limited to:
 - » VA Health Business Information Model
 - » SSA and CMS identity, person and other initiatives
 - » CDC community/public-health initiative
 - » NCI Cancer Informatics Program
 - » FDA Data Standards Program
- » Federal Standards Committees
- » Clinical Information Modeling Initiative (CIMI)
- » Standards Organizations, including, but not limited to:
 - » HL7, ASTM, NCPDP
 - » HITSP, DICOM, X12
- » Standards and Interoperability (S&I) Framework Initiatives

Interoperability specifications development process (abridged)



- » Model terminologies, value sets for coded data attributes, and additional information as needed in a platform independent model (PIM)
- » Defines most appropriate terminologies and value sets for coded data attributes
- » Follows the Model Driven Architecture (MDA) process guide using Model Driven Health Tools (MDHT) to produce a draft implementation standard
 - Identify specific use cases for exchange of information and intended target platform
 - Constrain the FHIM model to the information needed to support the use cases
 - Generate the target platform specific model
- » Uses the platform specific model to generate artifacts for the target specification standard
- » Pilot test the draft interoperability specification standard
- » Submit the draft interoperability specification standard to an SDO for ballot/approval



FHIM Information Domains - Modeling Status

FHIM Information Domains		
Information Domain	Information Modeling Status	Terminology Modeling Status
AdverseEventReporting	Complete	Complete
Allergies	Complete	Complete
Assessment	Complete	To Be Modeled
Audiology And Speech Pathology	To Be Modeled	To Be Modeled
BehavioralHealth	Partially Complete	To Be Modeled
BloodBank	To Be Modeled	To Be Modeled
CarePlan	Complete	In Progress
ClinicalDecisionSupport	In Progress	To Be Modeled
ClinicalDocument	To Be Modeled	To Be Modeled
Consultation	To Be Modeled	To Be Modeled
Dental	To Be Modeled	To Be Modeled
Dietetics	To Be Modeled	To Be Modeled
Encounter	Complete	To Be Modeled
EnrollEligibilityCOB	Complete	To Be Modeled
HealthConcern	Complete	Complete
HomeBasedPrimaryCare	To Be Modeled	To Be Modeled
Imaging	Complete	In Progress
Immunizations	Complete	Complete
Lab	Complete	Complete
OncologyRegistry	To Be Modeled	To Be Modeled
Orders	Complete	To Be Modeled

FHIM Information Domains		
Information Domain	Information Modeling Status	Terminology Modeling Status
PatientEducation	To Be Modeled	To Be Modeled
Person	Complete	Complete
Medications/Pharmacy	Complete	Complete
Prosthetics	To Be Modeled	To Be Modeled
Provider	Complete	Complete
Public Health Reporting	Complete	In Progress
Radiology	Complete	In Progress
SecurityAndPrivacy	Complete	Complete
SocialWork	To Be Modeled	To Be Modeled
SpinalCord	To Be Modeled	To Be Modeled
Surgery	To Be Modeled	To Be Modeled
VitalSigns	Complete	Complete
WomensHealth	To Be Modeled	To Be Modeled
Common	Complete	To Be Modeled
Datatypes	Complete	Complete

FHIM Website Resources

www.FHIMS.org



1. [FHIM Fact Sheet & Related Links](#)
2. [Pressure Ulcer Sample Model](#)
3. Model Downloads
 - [FHIM Unfragmented Model as ZIP file](#)
 - [FHIM XMI Version of the Model as ZIP file](#)
 - [FHIM Terminology Model as ZIP file](#)
 - [Slide Presentation: FHIM Model Content Overview](#)
4. Conferences, Presentations and Data Sheets
 - [Federal Health Architecture Data Sheet](#)
 - [Government Health IT Conference & Exhibition](#)
 - [HHS ONC Intro to NIEM and the S & I Framework](#)
 - [Mitre Publications](#)
 - [Public Health Reporting, Clinical Element Data Dictionary \(CEDD\) Feb. 2012](#)
5. Related Links
 - [FHIMS Registration Information](#)
 - [Information Model Fundamentals](#)
 - [S & I Framework: Clinical Information Models for LRI](#)
 - [HL7 Virtual Medical Record \(vMR\)](#)

Additional FHIM Resources



- » FHIM Logical Information Model: where,
 - FHIM Terminology Value Sets are on CDC PHIN/VADS
 - FHIM Terminology Value Sets are on NLM VSAC
 - UMLS license required to see content
- » FHIM Domains
- » Project Documents
 - FHIM Model-Driven Implementation Process Guide
 - Terminology Modeling Process Guide
 - Information Modeling Process Guide
 - Information Modeling Style Guide
- » MDHT