

United States Healthcare Information Knowledgebase - (USHIK)

USHIK Metadata Registry

The United States Health Information Knowledgebase (USHIK) is a computer-based metadata registry system that implements the specifications of the multi-part international standard ISO/IEC-11179, "Specification and Standardization of Data Elements", and the American National Standard X3.285, "Metadata for the Management of shareable Data". These complementary and mutually correlated standards specify the conceptual framework for computer-based registries of data elements and their metadata attributes. These registries maintain a consistent record of the metadata specifications for the semantics of the individual data elements.

Effective management of the meaning (or semantics) of data assets and associated terminology is essential for assuring the consistency and coherence of information stored in and shared between databases, and for accurately characterizing and communicating the contextual factors that are needed to assure the unambiguous interpretation of the data that is communicated. The systematic specification of the meaning of each data element is achieved through the registration of the metadata attributes of each data element. Data element concept metadata registration is an effective and internationally standardized methodology for managing the meaning of data assets, and thereby achieving consistency in the interpretation of the data.

The initial startup of the USHIK provides basic metadata registry operations to the Health informatics Standards Board (HISB) Standard Development Organizations (SDO) membership. Procedures are evolving to achieve metadata registry content consistency. The roles and responsibilities of the HISB and participating SDOs include:

USHIK Roles and Responsibilities

HISB

Designate a HISB project manager to coordinate project activities, report on project status and to act as the point of contact for the USHIK

Develop policies and procedures for the operation of the USHIK by multiple organizations

Administer and operate the USHIK, an ISO/IEC compliant metadata registry

Monitor the quality of information in the USHIK

Each SDO

Designate project policy coordinator (for development of the policies and procedures for use of the USHIK) and Technical Coordinator (to assist in the initial population and USHIK design enhancements)

Assume the responsibilities of a Registration Authority for their scope of information

Obtain a Registration Authority Identifier in accordance with the procedures prescribed in ISO/IEC 6523

Assist in the initial population of the USHIK with their current metadata

Publish and provide access to information in the USHIK	Validate mapping of their data elements to the Australian National Health Information Model (NHIM)
Coordinate new registry requirements across the SDOs	Participate in the development of enhanced data entry capability to support day to day USHIK operations
Based upon the success of the USHIK, secure funding for its continued operation	Consider establishment of a high level information model for their area and mapping their data elements to it Complete and refine the data element's metadata to meet agreed upon quality standards Review and approve registered data elements for their scope of information

The USHIK supports the following technical users:

Data User - A data user is a person who is interested in the meaning and context of a standard for use in specification of standards, regulations, policies, reports, and application systems.

System Developer - A system developer is a person who is interested in the meaning, context, and representation, including domain values, of a standard for use in the development of the application systems or commercial-off-the-shelf products.

Standards Developer - A standards developer is a person who is interested in developing, publishing, and maintaining standards within an organization including Standards Development Organizations.

The USHIK includes the following metadata registry areas.

Metadata Registry Area	Definition
Registration Authorities	A registration authority is an organization authorized to register metadata. The Knowledgebase can support multi-registration authorities within its structure. The user may select to work with one, more than one, or all registration authorities per session.
Information Models	Information models (also known as data models) increasingly are being used in health information management. Using one of the models, users can 'drill-down' from high-level entities through entity sub-types to reach data element definitions.
Data Elements	Data element definitions represent the metadata for health data. Data elements within the Knowledgebase have been documented within a standard format, using ISO/IEC international standard 11179. Greater detail of the use of this standard is included below.

Data Agreements	Data agreements is an area of the Knowledgebase which provides information about various agreements that seek to consistently collect or provide data. Examples include the National Committee on Health and Vital Statistics core data elements, various EDI transaction sets from Health Level Seven, ANSI X12, and the National Council for Prescription Drug Program. The Knowledgebase stores links between the data agreement and data element definitions. In this way the Knowledgebase can direct the user to the actual data elements, their definitions, and data domains included in the various agreements. Conversely, viewing a particular data element (via the data elements search screens) can inform the user of any data agreements that include the data element.
Data Collections	Data collections is an area of the Knowledgebase which is able to store information about any data base, application system, or report thought relevant to the Knowledgebase's audience. Please note that the Knowledgebase does not store the actual data collections (i.e., not the actual data). The Knowledgebase simply provides information about what is available and provides users with electronic mail links to get in touch with the collection managers. The Knowledgebase is able to store both a description of the collection and its purpose and links between the data collection and data element definitions. In this way the Knowledgebase can direct the user to the actual data elements, their definitions, and data domains included in the various collections. Conversely, viewing a particular data element (via the data element's search screens) will inform the user of any data collections that include the data element.
Initiatives	Initiatives are any identified projects that are developing or improving information. Just as data agreements and data collections, the Knowledgebase is able to store both a description of the initiative and its purpose and links between the initiative and data element definitions. In this way the Knowledgebase can direct the user to the actual data elements, their definitions, and data domains included in the various initiatives. Conversely, viewing a particular data element (via the data element's search screens) will inform the user of any initiatives that include the data element.
Organizations	In developing the Knowledgebase, a database was created with organizations (agencies) and their contacts (staff) as they relate to managing data element definitions, data collections, or initiatives. By using the search options in the Organization and Contacts area of the Knowledgebase, users can obtain a unique organizational view of responsibilities for different aspects of the health information agenda.
Registry Services	Registry Services is an area of the Knowledgebase which provides special capabilities or advanced reporting (such as generating data element comparison matrixes or downloading data element information which includes domain values).

Keywords	
Help	The Knowledgebase includes a comprehensive, context-sensitive help system. The Help button appears in most screens in the bottom right-hand corner of the display. Clicking on this button will generate help text relevant to the screen that the user is viewing.
Your Feedback	We welcome and encourage feedback. We would like to hear your evaluation of the Knowledgebase, any improvements or new features you would like, or notification describing any data errors in the product. The Feedback system allows you to forward your comments to us.

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