

# HITSP Retrieval of Medical Knowledge Transaction

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HITSP/T81



Healthcare Information Technology Standards Panel

*Submitted to:*

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*Submitted by:*

**Security, Privacy and Infrastructure Domain Technical Committee  
(Formerly Security and Privacy Technical Committee)**



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## 1.0 INTRODUCTION

### 1.1 OVERVIEW

This HITSP Retrieval of Medical Knowledge Transaction enables the request and receipt of additional knowledge about a medical concept based on specific context parameters. This Transaction does not prescribe the knowledge content of the message returned but provides the specifications for the query for and receipt of additional knowledge.

HITSP/T81 Retrieval of Medical Knowledge uses the Health Level 7 (HL7) Context-Aware Information Retrieval (Infobutton) Specification: URL Implementation Guide as the base standard for implementation.

### 1.2 COPYRIGHT PERMISSIONS

#### COPYRIGHT NOTICE

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### 1.3 REFERENCE DOCUMENTS

This section provides a list of key reference documents and background material.

A list of key reference documents and background material is provided in the table below. These documents can be retrieved from [www.hitsp.org](http://www.hitsp.org).

**Table 1-1 Reference Documents**

Reference Document	Document Description
<a href="#">HITSP Acronyms List</a>	Lists and defines the acronyms used in this document
<a href="#">HITSP Glossary</a>	Provides definitions for relevant terms used by HITSP documents
<a href="#">TN900 - Security and Privacy</a>	TN900 is a reference document that provides the overall context for use of the HITSP Security and Privacy constructs
<a href="#">TN901 - Clinical Documents</a>	TN901 is a reference document that provides the overall context for use of the HITSP Care Management and Health Records constructs

### 1.4 CONFORMANCE

This section describes the conformance criteria, which are objective statements of requirements that can be used to determine if a specific behavior, function, interface, or code set has been implemented correctly.

#### 1.4.1 CONFORMANCE CRITERIA

In order to claim conformance to this construct specification, an implementation must satisfy all the requirements and mandatory statements listed in this specification, the associated HITSP Interoperability Specification, its associated construct specifications, as well as conformance criteria from the selected base and composite standards. A conformant system must also implement all of the required interfaces within the scope, subset or implementation option that is selected from the associated Interoperability Specification.

Claims of conformance may only be made for the overall HITSP Interoperability Specification or Capability with which this construct is associated.



#### 1.4.2 CONFORMANCE SCOPING, SUBSETTING AND OPTIONS

A HITSP Interoperability Specification must be implemented in its entirety for an implementation to claim conformance to the specification. HITSP may define the permissibility for interface scoping, subsetting or implementation options by which the specification may be implemented in a limited manner. Such scoping, subsetting and options may extend to associated constructs, such as this construct. This construct must implement all requirements within the selected scope, subset or options as defined in the associated Interoperability Specification to claim conformance.



## 2.0 TRANSACTION DEFINITION

### 2.1 CONTEXT OVERVIEW

The Retrieval of Medical Knowledge Transaction specifies the query and receipt of ancillary medical knowledge.

Knowledge is medical information that is not patient specific, e.g., not a patient diagnosis, and not Individually Identified Health Information (IIHI) from a privacy perspective. Knowledge can also be complex information about a particular medical term. It is in support of a coded set of data. A Use Case scenario for this construct is when a patient is looking through a medical document and sees a word or a coded concept that they do not know. This construct would then be used to determine the description of the term. This description would be further customized based on the parameters passed in, for example where the description would be different for a male versus female.

HITSP/T81 Retrieval of Medical Knowledge uses the Health Level 7 (HL7) Context-Aware Information Retrieval (Infobutton) Specification: URL Implementation Guide as the base standard.

#### 2.1.1 TRANSACTION CONSTRAINTS

**Table 2-1 Transaction Constraints**

Constraint
No applicable constraints

The Interoperability Specification referencing this Construct or implementation organization may impose additional constraints to help scope the functionality as needed. For example; where an implementing organization has defined a value-set for the represented Organization.id, or where an Interoperability Specification may fix the HealthProvider.code to a value-set found in HITSP/C80 Clinical Document and Message Terminology.

#### 2.1.2 INTERFACES

**Table 2-2 Interfaces**

Interface	Description	Used in Component/ Standard	Transaction/Content	T/C Optionality <sup>1</sup>
Knowledge Requestor	A system that formulates and sends a contextual request for ancillary information about a medical concept. Takes the parameters and sends to the resource available	HL7 Context-Aware Information: Retrieval URL Implementation Guide	Retrieve topic medical knowledge	R
			Retrieve sub-topic medical knowledge	O
Knowledge Resource	The system that holds the information requested and responds to the request from the Knowledge Requestor	HL7 Context-Aware Information: Retrieval URL Implementation Guide	Retrieve topic medical knowledge	R
			Retrieve sub-topic medical knowledge	O

#### **Implementation Constraints**

**Table 2-3 Interface and Transaction/Content Constraints**

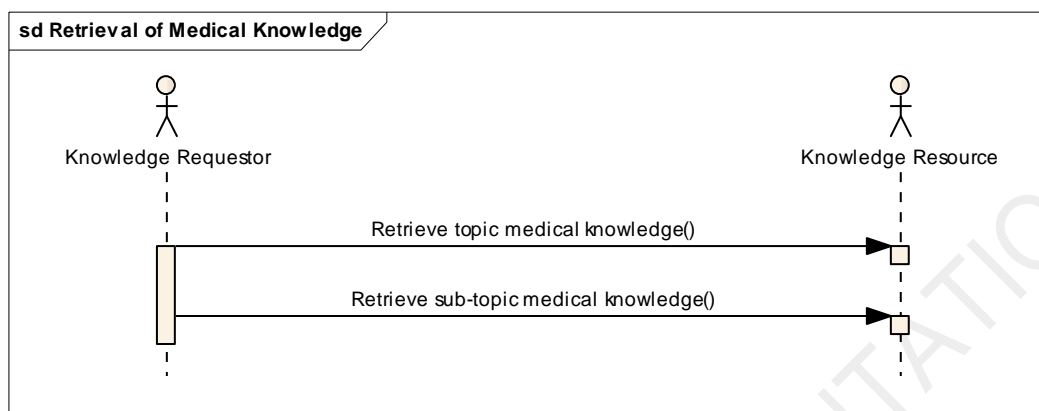
Constraint Code	Constraint Description
No applicable constraints	

<sup>1</sup> Optionality = "R" for Required, "O" for Optional, or "C" for Conditional



### 2.1.3 INTERFACE INTERACTIONS

Figure 2-1 Retrieval of Medical Knowledge Interaction



The following steps describe the interface interaction:

- The Knowledge Requestor sends a knowledge request for a topic (general medical knowledge) and may include parameters such as age and/or gender to the Knowledge Resource
  - The retrieve topic medical knowledge transaction is the Infobutton Event Notification transaction
- The Knowledge Requestor may optionally also retrieve further information on the sub-topics (granular medical knowledge) within the main criteria
  - The retrieve sub-topic medical knowledge transaction is the Infobutton Resource Event Notification transaction

The construct places the following constraints on the underlying standard:

- The search criteria shall not have more than one severity observation associated with each search criteria
- The AssignedEntity element shall not be used to convey user identity as this method is not cryptographically protected
- The returned medical knowledge should not contain active content (activeX, java, etc) that might require special handling on the Knowledge Requestor

### 2.1.4 PRE-CONDITIONS

Table 2-4 Pre-conditions

Pre-condition
It is expected that the security framework under which this Transaction operates is in accordance with the Interoperability Specification that references this construct. Therefore all applicable HITSP Security and Privacy constructs are implemented as required
The parameters regarding the knowledge retrieval are known (e.g., consumer knowledge level, preferred language, consumer demographics (gender, and age) document type (laboratory results vs. radiology report))



#### 2.1.4.1 PROCESS TRIGGERS

**Table 2-5 Process Triggers**

Process Trigger
Automatic request: Based upon predefined parameters, the EHR/PHR system may initiate a request for ancillary information from the Knowledge Resource
Manual request: The user may initiate a request for ancillary information from the Knowledge Resource

#### 2.1.5 POST-CONDITIONS

**Table 2-6 Post-conditions**

Post-condition
The knowledge returned is associated with the appropriate topic/sub-topic

#### 2.1.5.1 REQUIRED OUTPUT

**Table 2-7 Required Output**

Required Output	Format/Usage
An error condition is present in lieu of the desired response. Should cover, among others, terminology service unavailable, concept not understood, and no information was found	HL7 Context-Aware Information Retrieval URL IG
The Knowledge Resource returns the requested content	HL7 Context-Aware Information Retrieval URL IG

#### 2.1.6 DATA FLOWS

Examples of data elements required by the HL7 Context-Aware Information Retrieval (Infobutton)

Specification: URL Implementation Guide include:

InformationEventNotification Relationships, MainSearchCriteria, SubTopic, TaskContext, Encounter, InformationEventNotification Participants, Age, AgeGroup, Language, and LanguageCommunication

## 2.2 LIST OF HITSP CONSTRUCTS

**Table 2-8 List of HITSP Constructs**

Construct Name	Description	Transaction/Content
No applicable HITSP constructs		

#### 2.2.1 CONSTRUCT DEPENDENCIES

**Table 2-9 Construct Dependencies**

Construct	Depends On (Name of Component that it depends on)	Dependency Type (Pre-condition, post-condition, general)	Purpose (Reason for this dependency)
No applicable dependencies			

#### 2.2.2 ADDITIONAL CONSTRAINTS ON REQUIRED CONSTRUCTS

**Table 2-10 Additional Constraints on Required Constructs**

Data Element	Construct	Constraint	Constraint Type (Pre-condition, post-condition, general)	Purpose (Reason for this constraint)
No applicable constraints				



## 2.3 STANDARDS

### 2.3.1 REGULATORY GUIDANCE

**Table 2-11 Regulatory Guidance**

Regulation	Description
No regulatory guidance applicable	

### 2.3.2 SELECTED STANDARDS

**Table 2-12 Selected Standards**

Standard	Description
Health Level Seven (HL7) Version 3.0 Context-Aware Information Retrieval Specification: URL Implementation Guide	Informative implementation guide for URL-based implementations of the context-aware information retrieval ("Infobutton") The goal of this infobutton implementation guide is to recommend a URL-based implementation of the context-aware information retrieval ('infobutton') domain. The intent is to provide a simple way to implement infobuttons that is compatible with the current state of the market in this area. Most infobutton implementations to date, especially on the side of on-line information resources, rely on URL-based APIs. For more information visit <a href="http://www.hl7.org">www.hl7.org</a>

### 2.3.3 INFORMATIVE REFERENCE STANDARDS

**Table 2-13 Informative Reference Standards**

Standard	Description
No applicable informative reference standards	



### 3.0 APPENDIX

The following sections include relevant materials referenced throughout this document.

No additional information at this time.



## 4.0 DOCUMENT UPDATES

### 4.1 DECEMBER 10, 2008

The changes in this construct address the following comments received during the Public Comment and Inspection Testing period (September 29 – October 24, 2008).

- 5313, 5554, 5555, 5667

Minor editorial changes were made to this construct.

### 4.2 DECEMBER 18, 2008

Upon approval by the HITSP Panel on December 18, 2008, this document is now Released for Implementation.

### 4.3 JUNE 30, 2009

Minor editorial changes were made to this document. Boilerplate text was removed for simplification. The term “actor” was replaced with “interface”.

### 4.4 JULY 8, 2009

Upon approval by the HITSP Panel on July 8, 2009, this document is now Released for Implementation.

