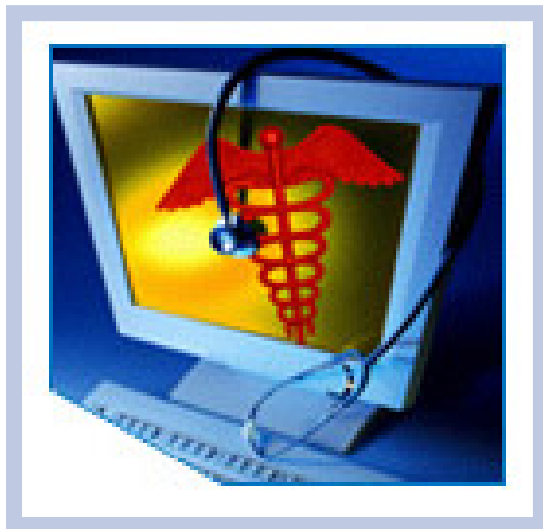


HITSP Consultations and Transfers of Care Interoperability Specification

HITSP/IS09



Submitted to:

Healthcare Information Technology Standards Panel

Submitted by:

**Provider Perspective Technical Committee
(Formerly Care Delivery Technical Committee)**

With input from:

**Administrative and Financial Domain Technical Committee
Care Management and Health Records Domain Technical Committee
Security, Privacy and Infrastructure Domain Technical Committee (Formerly Security and Privacy Technical Committee)**



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1.0 INTRODUCTION

As an introduction to the Healthcare Information Technology Standards Panel (HITSP) Consultations and Transfers of Care Interoperability Specification, this section provides a high level overview of the information sharing scenario enabled by following this specification, provides a document map of the construct relationships for the Interoperability Specification, acknowledges the copyright protections that pertain, and provides a list of key reference documents and background material.

1.1 INTEROPERABILITY SPECIFICATION OVERVIEW

This section provides a high level definition of this Interoperability Specification and background information about the underlying Use Case that it is based upon.

The HITSP Consultations and Transfers of Care Interoperability Specification describes the information flows, issues and system capabilities that apply to:

1. A provider requesting and a patient receiving a consultation from another provider.
2. A provider requesting a transfer of care for a patient and the receiving facility admitting the patient.

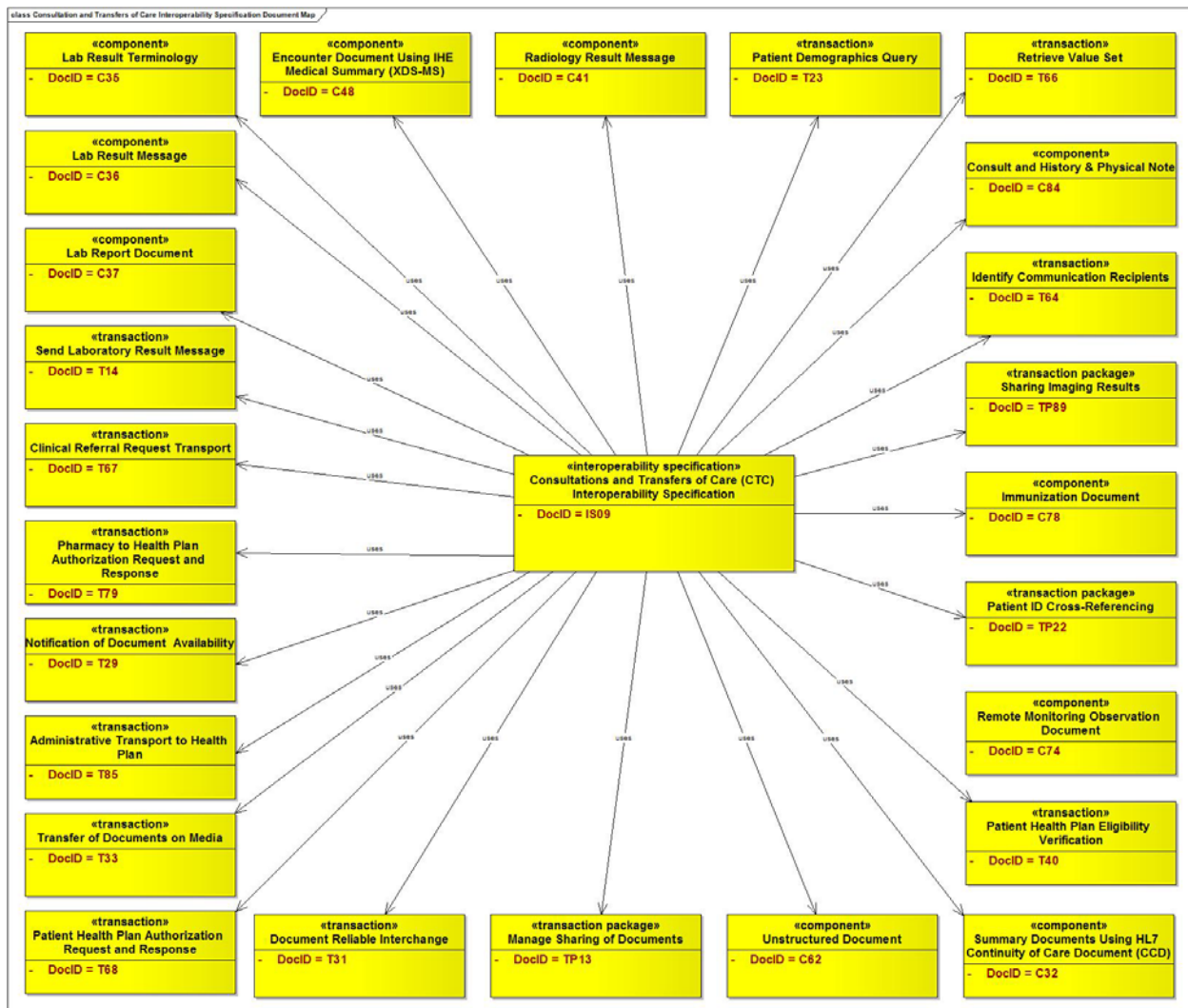
It is intended to facilitate access to information necessary for consultations and transfers for consulting clinicians, referring clinicians, transferring facilities, receiving facilities and consumers.

1.2 INTEROPERABILITY SPECIFICATION DOCUMENT MAP

Each HITSP Interoperability Specification (IS) is comprised of a suite of constructs that, taken as a whole, define how to integrate and constrain existing standards and specifications to satisfy the requirements imposed by a given Use Case. The IS groups specific actions and actors to describe the relevant context(s) for the use of HITSP constructs that further identify and constrain standards where necessary. In addition to ISSs, there are three other types of HITSP constructs called Transaction Packages (TP), Transactions (T), and Components (C). The document map in Figure 1.2-1 depicts how this IS integrates and constrains HITSP constructs to support the information exchange, within the defined context of the Use Case. Implementers should read the documents that describe the constructs depicted in the diagram for their details and specific uses. Note that the baseline Security and Privacy constructs are not shown in the diagram, however, they are described in Table 1.2.1-1.



Figure 1.2-1 Interoperability Specification Document Map



1.2.1 LIST OF CONSTRUCTS

The following table lists and describes the HITSP constructs that are used by the Interoperability Specification. All references to HITSP specifications are to the current, and Panel approved 'Released for Implementation' versions of the specifications retrieved from www.hitsp.org.

Where HITSP has adopted HL7 V3.0 CDA/CCD for conveying information between Electronic Health Record (EHR) and Personal Health Record (PHR) applications and in other healthcare scenarios, it has consolidated common constraints applied against the Content Modules in HITSP/C83 CDA Content Modules. Likewise, HITSP/C80 Clinical Document and Message Terminology maintains commonly applied terminology constraints. Readers should refer to HITSP/TN901 Technical Note for Clinical Documents to better understand how HITSP/C83 and HITSP/C80 are used by other constructs that are based upon HL7 V3.0 CDA/CCD (e.g., HITSP/C32 Summary Documents Using HL7 Continuity of Care



Document (CCD), HITSP/C48 Encounter Document Using IHE Medical Summary (XDS-MS) and HITSP/C84 Consult and History & Physical Note).

Table 1.2.1-1 List of Constructs

Construct	Description
HITSP/C19 - Entity Identity Assertion	The Entity Identity Assertion Component provides the mechanisms to ensure that an entity is the person or application that claims the identity provided. An example of this Component is the validation and assertion of a consumer logging on to a Personal Health Record (PHR) system
HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD)	The Summary Documents Using HL7 Continuity of Care Document (CCD) Component describes the document content summarizing a consumer's medical status for the purpose of information exchange. The content may include administrative (e.g., registration, demographics, insurance, etc.) and clinical (problem list, medication list, allergies, test results, etc) information. This Component defines content in order to promote interoperability between participating systems such as Personal Health Record Systems (PHRs), Electronic Health Record Systems (EHRs), Practice Management Applications and others
HITSP/C35 - Lab Result Terminology	The Lab Result Terminology Component defines the vocabulary for either message-based or document-based laboratory results reporting
HITSP/C36 - Lab Result Message	The Lab Result Message Component describes the use of a constrained Health Level Seven (HL7) Version 2.5.1 ORU – Unsolicited Observation Message for electronic laboratory results reporting
HITSP/C37 - Lab Report Document	The Lab Report Document Component prescribes the use of the standard Clinical Document Architecture Release 2 (CDA R2), as in the HL7 V3 2006 normative edition profiled by IHE LAB TF-3 for: transmission of complete, preliminary, final and updated laboratory results to the EHR system (local or remote) of the ordering clinician; transmission of complete, preliminary, final and updated (or notification) to the EHR system (local or remote) or other clinical data system of designated providers of care (with respect to a specific patient); transmission of laboratory result data from electronically enabled healthcare delivery and public health systems in standardized and anonymized format to authorized Public Health Agencies with less than one day lag time
HITSP/C41 - Radiology Result Message	The Radiology Result Message Component supports the process of sending radiology result data from a Biosurveillance Message Sender to a Biosurveillance Message Receiver. Radiology result data are captured as part of the normal process of care performed by healthcare providers
HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS)	The Encounter Document Using IHE Medical Summary (XDS-MS) Component supports the process of sending patient encounter data (excluding laboratory and radiology) in a document sharing functional flow scenario. Patient encounter data are captured as part of the normal process of care performed by healthcare providers, such as hospitals, emergency departments and outpatient clinics
HITSP/C62 - Unstructured Document	The Unstructured Document Component is provided for the capture and storage of patient identifiable, unstructured document content, such as text, PDF, and images rendered in PDF. It is based on the Cross-Enterprise Sharing of Scanned Documents (XDS-SD) profile from the Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF)



Construct	Description
HITSP/C74 - Remote Monitoring Observation	The Remote Monitoring Observation Document Component describes the document content to convey medical information collected by remote monitoring management systems from monitoring devices and/or device intermediaries for the purpose of information exchange. The content may include administrative (e.g., registration, demographics, insurance, etc.) and clinical (results, vital signs, etc) information. This specification defines content in order to promote interoperability between participating systems. Such systems may include Remote Monitoring Management Systems, Personal Health Record Systems (PHRs), Electronic Health Record Systems (EHRs), Health Information Exchange infrastructure services and other persons and systems as identified and permitted
HITSP/C78 – Immunization Content	The Immunization Document Component defines the immunization data content to be exchanged between healthcare entities such as immunization information systems, electronic medical records systems, personal healthcare record systems and other stakeholders. It is based upon the IHE Patient Care Coordination (PCC) Technical Framework Supplement 2008-2009, Immunization Content (IC), Trial Implementation Version 1.0
HITSP/C84 – Consult and History & Physical Note	The Consult and History & Physical Note Component supports two types of commonly used clinical notes, a consult note, and a history and physical note. It is intended for use to support the exchange of information from a consulting provider to a referring provider; and may also be used to provide background information from a referring provider to a consulting provider (e.g., prior reports)
HITSP/T14 - Send Laboratory Result Message	The Send Laboratory Result Message Transaction supports: transmission of complete, preliminary, final and updated laboratory results to the EHR system (local or remote) of the ordering clinician; and transmission of complete, preliminary, final and updated laboratory results (or notification of the availability of laboratory results) to the EHR system (local or remote) or other clinical data system of designated providers of care (with respect to a specific patient)
HITSP/T15 - Collect and Communicate Security Audit Trail	The Collect and Communicate Security Audit Trail Transaction is a means to provide assurance that security policies are being followed or enforced and that risks are being mitigated. This document describes the mechanisms to define and identify security relevant events and the data to be collected and communicated as determined by policy, regulation or risk analysis. It also provides the mechanism to determine the record format to support analytical reports that are needed
HITSP/T16 - Consistent Time	The Consistent Time Transaction provides a mechanism to ensure that all of the entities that are communicating within the network have synchronized system clocks
HITSP/T17 - Secured Communication Channel	The Secured Communication Channel Transaction provides the mechanisms to ensure the authenticity, integrity, and confidentiality of transmissions, and the mutual trust between communicating parties. Its objectives include providing: mutual node authentication to assure each node of the others' identity; transmission integrity to guard against improper information modification or destruction while in transit; and transmission confidentiality to ensure that information in transit is not disclosed to unauthorized individuals, entities, or processes
HITSP/T23 - Patient Demographics Query	The Patient Demographics Query Transaction is intended to provide a 'list patients and their demographics' query/'patient(s) and their demographics identified' response message pair (QBP*Q22, RSP*K22) for use wherever such needs exist. This Transaction document extracts the Health Level Seven (HL7) version 2.5 Query and Response data mapping. The underlying basis for this extraction can be found in the Integrating the Healthcare Enterprise IT Infrastructure Technical Framework, Patient Demographics Query integration profile



Construct	Description
HITSP/T29 - Notification of Document Availability	The Notification of Document Availability Transaction is based on the Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (TF) Supplement - Notification of Document Availability (NAV). The Notification of Document Availability Transaction defines a mechanism for a healthcare stakeholder (e.g. provider, public health, etc) to notify providers or the patient about information that is available for retrieval pertaining to an identified patient. This Transaction defines the format, content, encoding and transmission of notification messages and acknowledgements between IHE NAV Actors and a known recipient (either a person or system) that participate in the same XDS Affinity Domain
HITSP/T31 - Document Reliable Interchange	The Document Reliable Interchange Transaction provides a standards-based mechanism for conveying a set of medical documents in a point-to-point network-based communication. This Transaction uses the IHE Cross-Enterprise Document Reliable Interchange (XDR) Integration Profile, a companion to the IHE Cross-Enterprise Document Sharing (XDS) Integration Profile. Cross-Enterprise Document Reliable Interchange (XDR) uses the XDS defined metadata formats in a simpler environment in which the communicating parties have agreed to a point-to-point interchange rather than communicating via document sharing
HITSP/T33 - Transfer of Documents on Media	The Transfer of Documents on Media Transaction describes both the type of media (CD-ROM, USB Memory, and e-Mail) that may be used to write the documents and provides a directory structure that must be followed in order for the contents to be successfully accessed and processed by systems. An example might be to transport data from one healthcare provider to another healthcare provider, or a healthcare consumer may wish to move the contents of a Personal Health Record (PHR) using physical media or e-Mail. This Transaction uses the IHE Cross-Enterprise Document Media Interchange Integration Profile developed by Integrating the Healthcare Enterprise (IHE), a companion to the IHE Cross-Enterprise Document Sharing (XDS) Integration Profile
HITSP/T40 – Patient Health Plan Eligibility Verification	The Patient Health Plan Eligibility Verification Transaction is intended to provide the status of a health plan covering the individual, along with details regarding patient liability for deductible, co-pay and co-insurance amounts for a defined base set of generic benefits or services. The base set of benefits includes, but is not limited to, coverage status and patient liability for medical, chiropractic, dental, hospital inpatient, hospital outpatient, emergency, physician office visit, pharmacy and vision services that are included in the patient's generic health plan benefit
HITSP/T64 - Identify Communication Recipients	The Identify Communication Recipients Transaction is intended to serve the purpose of identification of communication recipients and the subsequent purpose of delivery of alerts and bi-directional communications (e.g., public health agencies notifying a specific group of service providers about an event.) The method and criteria by which individuals are added to a directory is a policy decision, which is out of scope for this construct. It uses the Integrating the Healthcare Enterprise (IHE) Personnel White Pages profile which provides access to basic directory information for identifying one or more recipients
HITSP/T66 – Retrieve Value Set	The Retrieve Value Set Transaction is used to transform human or computer vocabularies. For example, it can be used to convert the initial capture of a human-readable concept into a computer vocabulary captured in a document or message that will be communicated. It may also be used in the reverse, to take computer vocabulary and convert to human-readable form
HITSP/ T67 - Clinical Referral Request Transport	The Clinical Referral Request Transport Transaction will be used to transport the provider to provider (clinical) referral request interaction. It is based on the Integrating the Healthcare Enterprise (IHE) Document-based Referral Request (DRR) profile which is used to bundle a referral request document with other relevant clinical documents of interest and optionally to send a trigger message to the receiving provider system



Construct	Description
HITSP/T68 – Patient Health Plan Authorization Request and Response	The Patient Health Plan Authorization Request and Response Transaction provides a mechanism for a healthcare provider (other than a retail pharmacy) to request approval from a health plan to authorize certain healthcare services, when required by the patient's health plan contract. The information exchanged includes, but is not limited to, approval status for coverage, allowed service provider(s), and certification dates for services that are included in the patient's health plan benefits. The response from the health plan indicates that the health plan has determined that the particular service(s) will or will not be covered, and what is the level of coverage if that information is available from the health plan
HITSP/T79 – Pharmacy to Health Plan Authorization Request and Response	The Pharmacy to Health Plan Authorization Request and Response Transaction provides a mechanism for a pharmacy to request approval from a health plan to authorize certain healthcare products and services, as required by the patient's health plan contract. The health plan responds to the pharmacy's request for the approval of products and/or services. The information exchanged includes, but is not limited to, approval status for coverage of the products and/or services that are included in the patient's health plan benefits and/or authorization limitations
HITSP/T85 – Administrative Transport to Health Plan	The Administrative Transport to Health Plan Transaction will be used as the transport for administrative transactions between a provider and a health plan. Examples include a pharmacy obtaining health plan eligibility, and a physician requesting referral or authorization information from a health plan. This construct is based on the CAQH Phase II CORE #270 Connectivity Rule v2.0.0, which addresses the message envelope metadata, the message envelope standards, and the submitter authentication standards for administrative transactions, as well as communications-level errors, and acknowledgements
HITSP/TP13 - Manage Sharing of Documents	The Manage Sharing of Documents Transaction Package supports the sharing of patient records in the form of source attested objects called documents. A healthcare document is a composite of structured and coded health information, both narrative and tabular, that describes acts, observations and services for the purpose of exchange. No assumption is made by this construct in terms of the format and structure of the content of documents shared
HITSP/TP20 - Access Control	The Access Control Transaction Package provides the mechanism for security authorizations which control the enforcement of security policies including: role-based access control; entity based access control; context based access control; and the execution of consent directives. An example of this is a functional role that has the permission to perform an act (e.g., consumer updating a Personal Health Record (PHR)). In an emergency, this construct must support the capability to alter access privileges to the appropriate level (failsafe/emergency access), which may include override of non-emergency consents
HITSP/TP22 - Patient ID Cross-Referencing	The Patient ID Cross-Referencing Transaction Package is used for identifying and cross-referencing different attributes for the same patient. It contains a query for cross-reference and patient identity feed transactions. These transactions are used to identify patients from a list of potentials, and/or to communicate patient demographic data
HITSP/TP30 - Manage Consent Directives	The Manage Consent Directives Transaction Package describes the messages needed to capture, manage, and communicate rights granted or withheld by a consumer to one or more identified entities in a defined role to access, collect, use or disclose individually identifiable health information (IIHI), and also supports the delegation of the patient's right to consent. The transactions described in this construct are intended to be carried out by HITSP/TP13 - Manage Sharing of Documents
HITSP/TP89 – Sharing Imaging Results	The Sharing Imaging Results Transaction Package supports the process of sharing medical imaging results data. Imaging results data are captured as part of the normal process of care performed by healthcare providers. This data can be made available through document sharing for both clinical care and public health purposes



1.3 COPYRIGHT PERMISSIONS

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1.4 REFERENCE DOCUMENTS

This section provides a list of key reference documents and background material. If you are already familiar with this information, proceed to Section 2.0.

A list of key reference documents and background material is provided in the table below. These documents can be retrieved from www.hitsp.org.

Table 1.4-1 Reference Documents

Construct	Description
HITSP Acronyms List	Lists and defines the acronyms used in this document
HITSP Conventions List	Describes the conventions that are used to convey the full descriptions and usage of standards in the HITSP specifications
HITSP Glossary	Provides definitions for relevant terms used by HITSP documents
HITSP Harmonization Framework	Describes the current framework within which the Interoperability Specifications are built
HITSP Interoperability Specification Overview	Provides background information about the HITSP and its role in the overall U.S. efforts to realize large scale interoperability of health information. The document also provides a description of the HITSP process for healthcare standards harmonization and explains how to use the Interoperability Specifications and other related documents to inform your health IT system development or refinement
Consultation and Transfers of Care Detailed Use Case, March 21, 2008	AHIC Use Case that is the basis of this HITSP Interoperability Specification



Construct	Description
TN900 - Security and Privacy Technical Note	<p>Developed as a reference document to provide the overall context for use of the HITSP Security and Privacy constructs. It includes the following:</p> <ul style="list-style-type: none"> • The scope, reference policy background, and Security and Privacy principles used in the development of the constructs • A detailed description and schematics of the conceptual relationship between the Security and Privacy constructs • A mapping of existing standards and constructs to be used in meeting the stated requirements of the AHIC Use Cases • A list of identified gaps and the recommended approaches to resolving those gaps • A roadmap for how the Security and Privacy constructs will evolve and eventually align with other HITSP Interoperability Specifications • A conceptual framework for Security and Privacy management, including reference information on privacy policies, risk assessment, and risk management • A description of the application of the Security and Privacy constructs to the HITSP Interoperability Specifications for the three initial AHIC Use Cases – Biosurveillance, Electronic Health Records - Laboratory Results Reporting, and Consumer Empowerment <p>HITSP will periodically update this Technical Note as required by the introduction of new contexts for use.</p>
TN901 – Technical Note for Clinical Documents	<p>Developed as a reference document to provide the overall context for use of the HITSP Care Management and Health Records constructs. It includes the following:</p> <ul style="list-style-type: none"> • The scope, background, and principles for use in the development of the CMHR constructs • A detailed description and schematics of the relationship between CMHR constructs • A conceptual framework for the construction of clinical documents • An overview of Clinical Document concepts • An overview of Vocabulary concepts



2.0 REQUIREMENTS

This section provides a high level description of the Consultations and Transfers of Care Use Case, as well as the specific information exchange and data requirements that are extracted from the Use Case. It includes the following information:

- Mapping from the Use Case actions and events, to the derived information exchange and data requirements – this table lists the requirements grouped by actor for each event and related action
- Data requirements – this table further describes the data requirements for each specified information exchange requirement
- Information exchange requirements – this table further describes the information exchange requirements for each applicable Use Case action
- Business Actors – this table defines the business actors that are included for the Interoperability Specification, and maps them to the applicable scenario, information exchange, and data requirements
- High Level Diagrams – these diagrams are used to describe the interaction between the business actors, and the data involved in each scenario that is documented

2.1 USE CASE SYNOPSIS

This section provides a synopsis of the Consultations and Transfers of Care Use Case, including any applicable scenarios that are part of the Use Case.

The Consultations and Transfers of Care Use Case focuses on the electronic exchange of information between clinicians, particularly between requesting clinicians and consulting clinicians, to support consultations, including specialty services and second opinions. This Use Case also focuses on the exchange of clinical information needed during transfers of care. A transfer of care occurs when a patient is discharged and transferred from one health setting to another, such as to or from an acute care hospital, skilled nursing or rehabilitation facility, or to home with or without home healthcare services. Patients participate in this electronic exchange of information as recipients of information exchange and may designate authorized recipients of healthcare information during consultations and transfers of care.

A provider may be an individual clinician (as in the case of a consultation) or a care delivery setting (as in the case of a transfer of care). Electronic consultation between patients and providers is not included within this Use Case but is addressed in the Patient-Provider Secure Messaging Use Case.

This Use Case identifies standardized clinical information, including a reason for the consultation or transfer, necessary patient data and information about the intended care to be provided by the consulting clinician or receiving care setting. This Use Case also addresses capabilities for consulting clinicians to access and retrieve, as appropriate, additional patient information to supplement what is sent in the



consultation request. This Use Case also includes the communication of information needed by the requesting clinician to continue to manage patient care upon completion of a consultation.

Primarily, this Use Case focuses on clinician-to-clinician requests for consultations in circumstances like ambulatory care settings, where information must flow between organizations, and not on information exchange within an organization. The process includes both initiating the request for consultation and providing the relevant clinical findings and care management information back to the originator of the request (typically, the primary care provider). Consultation requests may become a patient referral for the consulting clinician to take over responsibility for managing the patient and providing care.

Transfer of care is focused on providing patient information needed by clinicians to accomplish a transition in care from one care setting to another, particularly transitions between acute, long-term care, nursing facility, rehabilitation facility, home healthcare, and other inter-organizational transitions rather than transfers within a given care setting. In the ambulatory care setting, a referral may constitute a transfer of care from one ambulatory care provider to another ambulatory care provider.

This Use Case assumes the developing presence of electronic systems such as Electronic Health Records (EHRs), Personal Health Records (PHRs), and other local or Web based solutions supporting clinicians and patients, while recognizing the issues and obstacles associated with these assumptions.

This Use Case includes six perspectives that are intended to indicate roles and functions, rather than organizations or physical locations. Each perspective represents the exchange of clinical information from the viewpoint of the major stakeholders involved in sharing data between clinicians and provider settings.

1. Requesting Clinician
2. Consulting Clinician
3. Discharging/Transferring Setting
4. Receiving Care Setting
5. Patient
6. Information Exchange

2.2 USE CASE REQUIREMENTS

This section describes the Use Case requirements and outlines all the given scenarios at a high level.

The Consultations and Transfers of Care Use Case focuses on the exchange of a core set of information between clinicians, care settings and patients. This Use Case also covers the exchange of information needed to verify eligibility and authorization for services. This Use Case describes two scenarios, Consultations and Transfers of Care.

Scenario 1: Consultation



The Consultation Scenario is focused on the sharing of information to support a request for a consultation, the consultation itself, and the sharing of information back to the requesting clinician and patient upon completion of the consultation. This scenario includes the communication of a request for consultation and a core set of clinical and administrative information between clinicians, as well as additional context specific information which may be provided to and/or requested by the consulting clinician. Requesting clinicians can transmit a core set of patient information, which can include (but is not limited to) reason for the consultation request, patient summary information, diagnostic images, procedure reports, laboratory results, etc. Consulting clinicians may also seek access to additional clinical information via an information exchange as necessary and relevant to develop a comprehensive clinical picture. Depending upon patient care needs, consultation requests at times may become patient referrals where the consulting clinician assumes responsibility for managing the patient and providing care.

Scenario 2: Transfers of Care

The Transfers of Care Scenario is focused on the sharing of information to support the discharge and/or transfer of a patient from one care setting to another. The clinical accountability and management of the patient is transferred from one clinician and care setting to another. This scenario includes the sharing of a set of clinical and administrative information between provider organizations, as well as additional information which may be accessed or requested by the new provider of care. The transferring setting can transmit a core set of clinical information to the receiving setting to assist in the coordination and management of patient care and may also send relevant information to the patient's personally controlled health records which may include PHRs, health record banks, etc. This core set of clinical information can include (but is not limited to) patient summary information, discharge summary, plan of care, procedure documentation, and clinical results. The receiving setting may also seek access to additional clinical information via an information exchange as necessary and relevant to develop a comprehensive clinical picture.

2.2.1 MAPPING OF USE CASE ACTIONS TO INFORMATION EXCHANGE REQUIREMENTS

Section 6.2 contains the perspectives, scenarios, and events from the Use Case. This section maps these events and actions to extracted Information Exchange Requirements (IER), and Data Requirements (DR) that are described in Section 2.2.2. An Information Exchange Requirements (IER) describes a requirement for information exchange between HITSP Business Actors. Data Requirements (DR) define requirements for part, or all, of the data exchanged by one or more IERs. The DR's are defined as a set of information attributes with specific details for each attribute. IER's and DR's form the basis for the construct requirements of the Interoperability Specification that are described in Section 3.

2.2.2 DATA AND INFORMATION EXCHANGE REQUIREMENTS

This section contains an extraction of data and information requirements (Table 2.2.2-1) and information exchange requirements (Table 2.2.2-2).



Table 2.2.2-1 provides the data requirement numbers, requirement descriptions, and a listing of the actual data elements and information that meet the data requirements. These requirements are referenced from the Data Requirements column of the Use Case Mapping Table 6.2-1 provided in Section 6.2.

Table 2.2.2-1 Data Element and Information Requirements (DR)

Data Requirement Number (DR)	Description
DR 2	<p>Patient Clinical Information, including (but not limited to):</p> <ul style="list-style-type: none"> • Advance Directive • Allergy/Drug Sensitivity • Comment • Condition • Encounter • Healthcare Provider • Immunization • Information Source • Insurance Provider • Language Spoken • Medication – Prescription and Non-Prescription • Person Information • Pregnancy • Procedure • Support • Vital Sign <p>Note: Patient Clinical Summary is provided for Consultation Note: If available, a list of medical equipment should be included</p>
DR 6	<p>Health Plan Eligibility Information, including (but not limited to):</p> <ul style="list-style-type: none"> • Health Plan related patient demographics (First name, last name, date of birth, health plan member ID) • Co-pay • Deductibles • Limits, and exclusions • Procedure or services coded values • Effective date of health insurance coverage actually in operation
DR 9	<p>Consultation Completion Details, including (but not limited to):</p> <ul style="list-style-type: none"> • Consultation Treatment Summary • Complete Medication List • Recommended Plan of Care • Medication Reconciliation (Stopped, Modified/Added, On Hold, Current List)
DR10	<p>Consulting Provider Registry, including (but not limited to):</p> <ul style="list-style-type: none"> • Name • Location • Specialties/Capabilities • Facilities association • Schedule • Insurance Plan Associations • Contact Information
DR 57	<p>Demographic Data – Consult and Transfer, including (but not limited to):</p> <ul style="list-style-type: none"> • Dates • Patient Demographic Information • Provider Information • Reason for Consultation or Reason for Transfer/Discharge <p>Note: DR57 does not include eligibility and authorization information, that is covered by DR6</p>
DR 60	<p>Patient Encounter/Discharge Summary, including(but not limited to):</p>



Data Requirement Number (DR)	Description
	<ul style="list-style-type: none"> Past Medical History and Diagnosis Physical Exam Details Problems/Conditions Reason for Admission/Visit Discharge Diagnosis and Summary Relevant Images Multidisciplinary Plan of Care Pending Information Pertinent Results Medication Reconciliation (Stopped, Modified/Added, On Hold, Current List) Allergies and Adverse Reactions Relevant Medical Equipment (i.e. Implanted and external medical devices, equipment, DME etc) Treatment Summary Procedures Relevant Notes (e.g. Case Manager, Clinician, Therapies, Consults, etc) Advance Directives, Power of Attorney Functional Status Assessments that include functional status <p>Note: Patient encounter/discharge summary is provided for transfer of care</p>

Table 2.2.2-2 below contains an extraction of the Information Exchange Requirements from the Use Case. These requirements are referenced from the Information Exchange Requirements column of the Use Case Mapping Table 6.2-1 provided in Section 6.2.

Table 2.2.2-2 Information Exchange Requirements (IER)

Information Exchange Requirement Number (IER)	Description
IER 1	Provide authorization and consent: PHR or EHR provides electronic access list (created by patient) to external PHR or EHR system
IER 11	Identify provider based on patient preference: Identify/select a consulting clinician or next care setting based upon the patient's preference
IER 13	Send/receive notification of document availability: Support for notification of availability of new/updated data
IER 14	Send/Receive health plan eligibility: Identify and verify eligibility from health plan
IER 15	Send/Receive health plan authorization: Obtain Authorization for service from health plan
IER 16	Send/Receive clinical summary: Send/Receive Clinical Summary
IER 17	Send/Receive transfer of care data: Send/Receive transfer of care information
IER 22	Send/Receive additional patient information: Send/Receive additional patient information
IER 25	Send/Receive decision support data: Decision support software at each step of the consultation, which may include algorithms, dashboards, status reports and views
IER 28	Download historical health data: Download historical health information from EHR's, PHR, health record banks, etc
IER 37	Update medication information: Perform medication reconciliation for any modified medications as stated in the 2007 Medication Management Use Case



Information Exchange Requirement Number (IER)	Description
IER 43	Send/Receive accept patient: Send/Receive query/response if the patient can be accepted
IER 45	Send/Receive consult results report: Send/Receive consult results report
IER 57	Identify provider based on health plan: Identify/Select a consulting clinician or next setting of care, based on capability and health plan association
IER 60	Send/Receive discharge summary: Send/Receive discharge/transfer information to personally controlled health record
IER 62	Send/Receive encounter or full episode of care record: Send/Receive data from the current encounter or the full Episode of Care record
IER 63	Request additional patient data: Send/Receive a request for additional patient information
IER 64	Send/Receive consult request/data: Send/Receive consult request and core data for consult

2.2.3 IDENTIFICATION OF BUSINESS ACTORS, MAPPED TO REQUIREMENTS

This section describes the Business Actors that impact information exchange requirements for each scenario. A Business Actor is an abstraction that is instantiated as an IT system application that a Stakeholder uses in the exchange of data needed to complete Use Case action(s); a Business Actor is not a Stakeholder. A HITSP Stakeholder is a person, organization or “personified system” that performs actions in a Use Case. Only Business Actors as an IT system are directly engaged and benefit from the real world information exchange defined within a business Use Case action. Only Business Actors are associated with Technical Actors, which support the data exchanges of the Business Actors (see Section 3.2 for Technical Actors). The table below identifies the significant Use Case Business Actors, their descriptions, the Stakeholders they support, the Use Case scenarios, and the information exchange or data requirements for which they are used. Refer to the Use Case for a more detailed description of the listed stakeholders.

Table 2.2.3-1 Business Actors

Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
Provider Administrative and Financial Systems	Systems used by healthcare provider that include administrative and financial functions associated with the	Administrative and financial staff	1, 2	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
		Care coordinators		IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
	delivery of healthcare. These functions support the delivery and optimization of care, but generally do not impact the direct care of an individual patient	Clinical support staff Healthcare Entities Health Information Management (HIM) Personnel		IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
Diagnostic Imaging Information Systems	A computerized system used by organizations that provide radiology and diagnostic imaging services to patients in various settings. The organizations perform and analyze the study as ordered by clinicians to assess the health status of patients, e.g. Radiology Information Systems (RIS), or Picture Archiving and Communications Systems (PACS)	Care coordinators Clinical support staff Clinicians Diagnostic Imaging service provider Healthcare Entities Health Information Management (HIM) Personnel	1, 2	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
				IER25 Send/Receive decision support data	GAP
				IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
				IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
				IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
				IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
				IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
				IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
				IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
				IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
				IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
Electronic Health Record (EHR) System	The Electronic Health Record (EHR) System is a secure, real-time, point-of-care, patient-centric information resource for clinicians	Care coordinators Clinical support staff Clinicians Diagnostic Imaging service provider Healthcare Entities Health Information Management (HIM) Personnel	1, 2	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
				IER25 Send/Receive decision support data	GAP
				IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
				IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
				IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
				IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
				IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
				IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
				IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
				IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
Personal Health Record (PHR) System	A healthcare record system used to create, review, annotate and maintain records by the patient or the caregiver for a patient. The PHR may include any aspect(s) of the health condition, medications, medical problems,	Care coordinators Clinicians Consumers Healthcare Entities	1, 2	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
	allergies, vaccination history, visit history or communications with healthcare providers			IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
				IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
				IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
				IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
				IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
				IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
				IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
				IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
				IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
				IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
				IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
Health Plan System	Systems used by health plans that include administrative and financial functions associated with the	Administrative and Financial Staff	1, 2	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
				IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
	coverage and financing of healthcare for the health plan's enrolled members. These functions include information regarding the individual's enrollment, eligibility, coverage and benefits, authorizations, claims, care coordination and other information related to the member	Care Coordinators Health Plan		IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
Laboratory Information Systems	Information system supporting the testing, analysis, and information management for laboratory organizations. Medical laboratories, in either a hospital or ambulatory environment, which analyze specimens as ordered by clinicians to assess the health status of patients. Laboratories, depending on how they are affiliated with hospitals, can be part of either Individual Healthcare Facilities or Integrated Healthcare Data Suppliers. These business actors are responsible for updating interface engine rules and triggers in response to Use Case modifications of requested data feeds	Clinical support staff Clinicians Healthcare Entities	1, 2	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
				IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
				IER25 Send/Receive decision support data	GAP
				IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
				IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
				IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
				IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
				IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
				IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
				IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
				IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details



Business Actor	Description	Supported Stakeholders	Use Case Scenario	Information Exchange Requirement Numbers (IER)	Data Requirement Numbers (DR)
Infrastructure Services	<p>This business actor groups the services that are necessary to support the Use Case, such as:</p> <ul style="list-style-type: none"> • PID service • Locator service • Registry service • Data repository • Security and privacy services <p>These services do not need to be implemented in any one particular location. The actual deployment of the services would be highly influenced by implementation needs and policies</p>	All	All	All	All

2.2.4 HIGH LEVEL DIAGRAMS

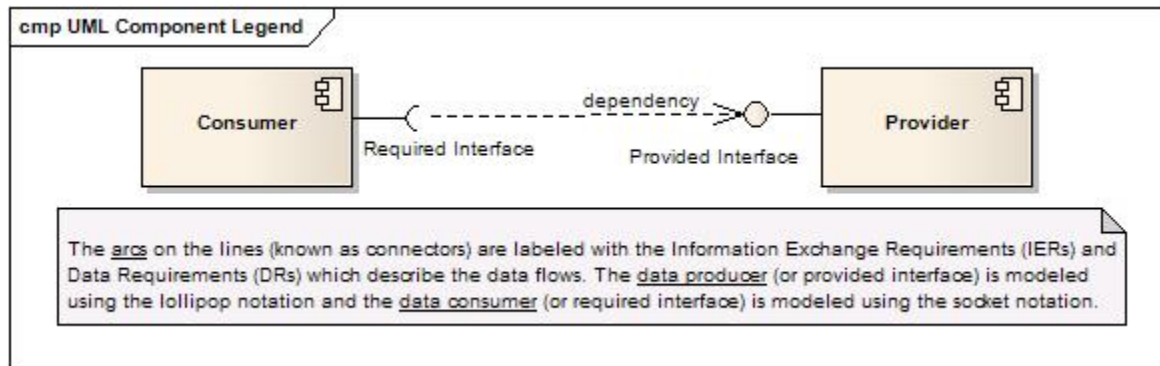
This section contains diagrams that describe the relationships and data interactions between the primary and alternative business actors and stakeholders for each Use Case scenario.

Section 6.3 provides High Level Sequence Diagrams to illustrate each Use Case scenario with a representation of a normal sequence of exchange between the primary actors.

The figures below are Component Data Flow diagrams that illustrate the data flow and information exchanges between the primary HITSP Business Actors. The information exchange and data requirement numbers from tables in Section 2.2.2 are annotated on the diagrams to show how the requirements relate to the primary actors. The in-scope requirements are supported by constructs which will be introduced in Section 3 of this Interoperability Specification. Figure 2.2.4-1 is a legend for reading the Component Data Flow diagrams.



Figure 2.2.4-1 Legend for Component Diagrams



Note that the infrastructure services business actor groups the services that are necessary to support the Use Case but does not need to be implemented in any one particular location (e.g., security). The actual deployment of the services would be highly influenced by implementation needs and policies. They are NOT shown on the Figure 2.2.4 diagrams, because they can be placed anywhere.

Figure 2.2.4-2 is a Component Data Flow diagram that illustrates the data flow and information exchanges between the primary actors in Scenario 1: Consultations. The information exchange and data requirement numbers from tables in Section 2.2.2 are annotated on the diagrams to show how the requirements relate to the primary actors. The in-scope requirements are supported by constructs which will be introduced in Section 3.0 of this Interoperability Specification.



Figure 2.2.4-2 Consultations Component Data Flow Diagram

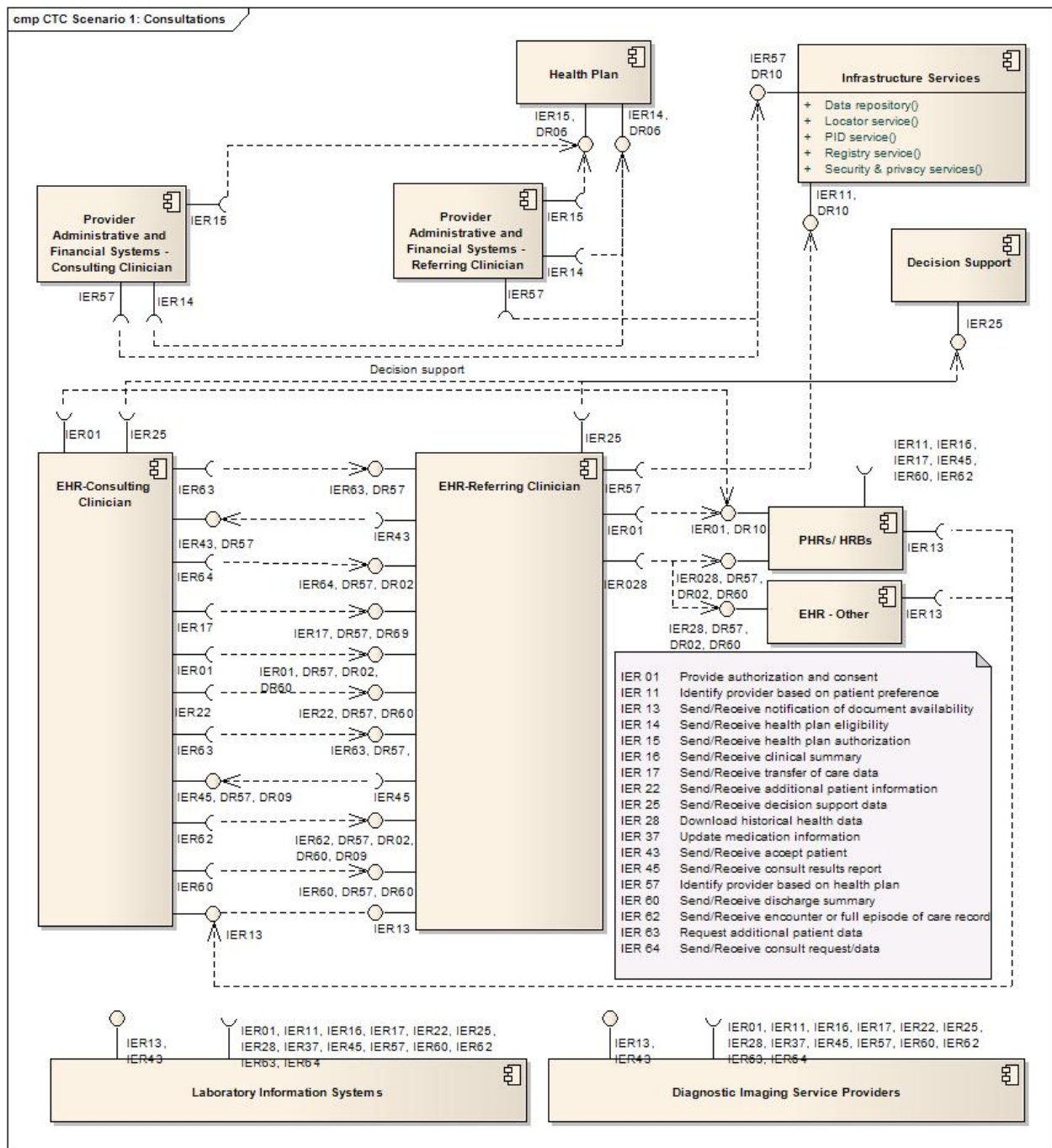
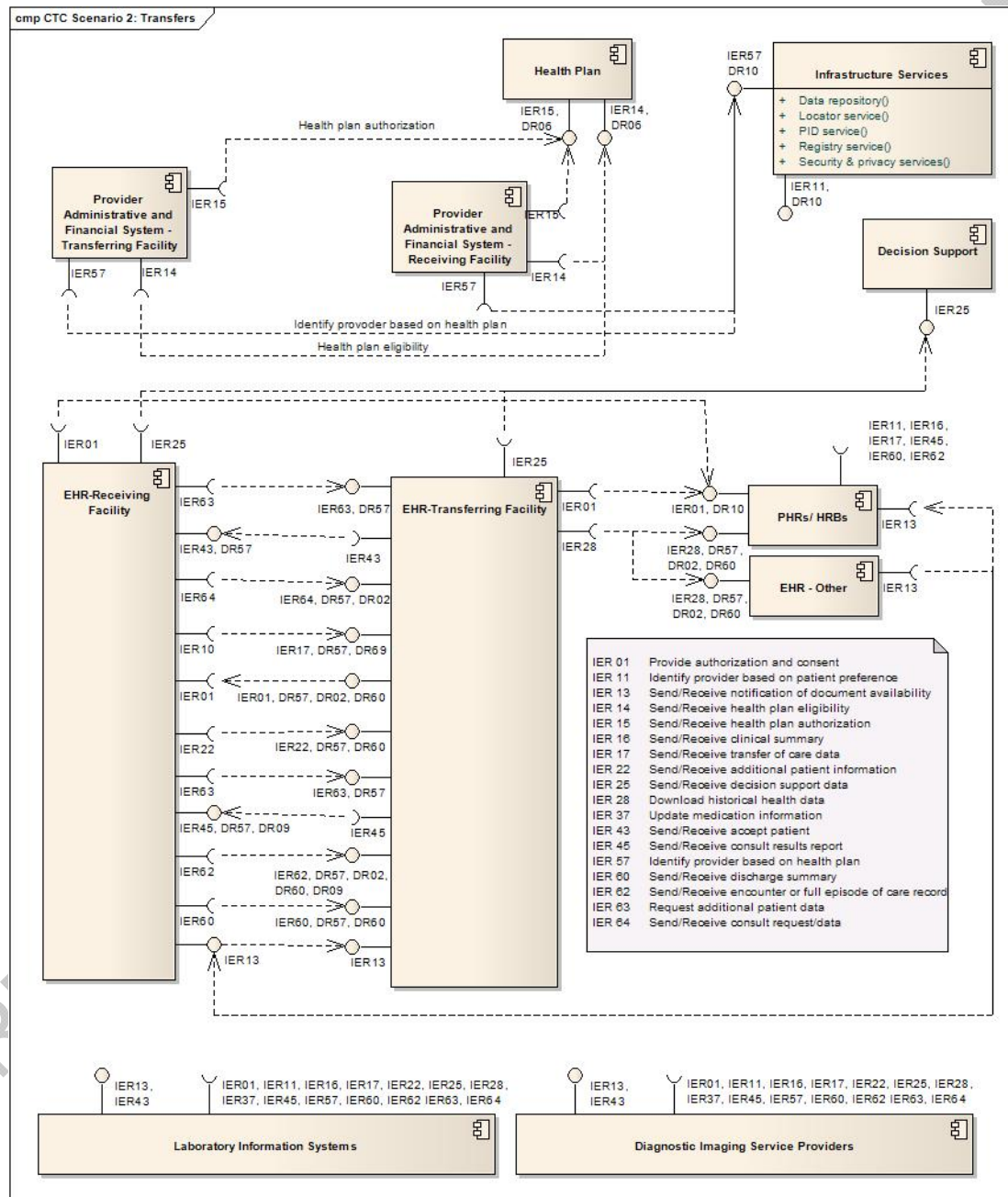


Figure 2.2.4-3 is a Component Data Flow diagram that illustrates the data flow and information exchanges between the primary actors in Scenario 2: Transfers. The information exchange and data requirement numbers from tables in Section 2.2.2 IERs and DRs are annotated on the diagrams to show how the requirements relate to the primary actors. The in-scope requirements are supported by constructs which will be introduced in Section 3.0 of this Interoperability Specification.

Figure 2.2.4-3 Transfers Component Data Flow Diagram



3.0 DESIGN

The design for the Interoperability Specification is the result of the requirements analysis and iterative standards selection process. This section describes the design based on the specified Business Actors and their Information Exchange and Data Requirements. It provides a detailed mapping of the specified requirements to HITSP constructs and their Technical Actors, groupings of specific Technical Actors which support Business Actors are specified to further describe the relevant interactions from existing or new HITSP constructs required for interoperability.

3.1 SCOPE OF DESIGN

This section describes the scope of the design as it relates to the requirements for this Use Case that were identified in Section 2.2 above. The scope identifies the assumptions that provide the boundaries for the specification and the constraints that limit the use of the specification. In addition, any pre-conditions, post-conditions and triggers that underlie the interactions between the various actors, data and transactions are provided.

The HITSP Consultations and Transfers of Care Interoperability Specification has several scope assumptions. First, Decision Support Systems (DSS) are not specifically addressed herein. DSS are quite ubiquitous and are addressed elsewhere in the HITSP process. It is assumed that most actors in the Consultations and Transfers of Care Use Case will employ DSS systems, often fed by remote data from interoperable systems. For example, a consulting physician may use his EHR and receive decision support partially based upon data transmitted, using this design standard, from a PHR, Remote Data Bank, or another EHR. Second, this construct addresses the use of portable media such as CD-ROMs, which may be carried or transmitted from one care system to another. For example, a patient may bring a multi-megabyte optical disk file from one health system to another. An important and third point relates to consultations; they are assumed to be continuing until formally terminated by the involved parties or specifically ordered as a one-time encounter (e.g., to perform a procedure, evaluate a skin rash). Particularly in the inpatient setting, consultations are ongoing over a period of time and involve multiple encounters. Fourth, any notifications to a transport team (e.g., an ambulance team involved in a hospital to hospital transfer) are assumed to occur personally, by telephone, or electronically; they are not further specified in this design document because this was not judged to be within scope. A fifth and final point regards security; pseudonymization and anonymization are assumed to occur using procedures followed in the Security and Privacy constructs. No deviations from the Security and Privacy constructs as written or used in other design document are specified or anticipated.

Note: In long-term care, it is common for staff to identify the potential need for a physician consult. In these cases, an essential additional communication flow is that between the long-term care staff and the requesting physician, describing the need for the consult. This communication flow would be considered a separate instance of a consultation request and response.



The assumption is that when there are multiple parties involved in the patient's care, the business rules established between the parties will ensure the exchange of information.

3.1.1 ASSUMPTIONS

This section provides an overview of the assumptions, including the circumstances, actors, policies and/or technologies that need to be in place for the design to be completed as specified. Assumptions are different from constraints which are specifically used to narrow the definition, or indicate limitations of the specified interactions.

Table 3.1.1-1 Assumptions

Assumption	Use Case Scenario
Any interfaces with remote monitoring devices will be handled by the HITSP Remote Monitoring Interoperability Specification	All
Patient system accesses updated clinical information via health information exchanges as described in the Consumer Empowerment 2007 Consumer Access to Clinical Information Use Case	All
Medication reconciliation will be done via HITSP/IS07 - Medication Management	All
Notification of the transport team system is a telephone call (also, refer to HITSP/IS04 - Emergency Responder-EHR)	2

3.1.2 CONSTRAINTS

This section describes the constraints that limit the context in which the Interoperability Specification may be used. A constraint describes a rule that limits the use of the actors, actions or data within the given context, or to which the interactions must conform to be used within the described context. It is a description of the limits and scope of the interactions and can describe actions or events that are not part of the initial definition for the context.

Table 3.1.2-1 Constraints

Constraint	Use Case Scenario
No applicable constraints	

3.1.3 PRE-CONDITIONS

This section describes the necessary conditions that must be in place prior to the start of each scenario. The pre-conditions are used to convey any conditions that must be true at the outset of a scenario. It describes the context that must be established before the scenario is executed. They are not however the triggers that initiate a Use Case. Where one or more pre-conditions are not met, the behavior of the Use Case should be considered uncertain.



Table 3.1.3-1 Pre-conditions

Pre-condition	Use Case Scenario
All pre-conditions from the lower level constructs are incorporated	All
When needed, the patient is uniquely registered with the Patient Identity Cross-Referencing service	All
Patient Identities (name, demographics etc.) are known and are consistent with policies	All
Prior to patient transfer occurring, the transport team will be notified	2
Support the technical measures to ensure Security and Privacy of consumer/patient health information	All
Authentication service to authenticate requestors and/or data submissions from various locations	All
Security and Privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient security and privacy	All
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	All
Support the following HITSP Security and Privacy constructs: HITSP/C19 – Entity Identity Assertion HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/TP30 - Manage Consent Directives HITSP/TP20 - Access Control	All

3.1.4 POST-CONDITIONS

This section provides an overview of the conditions or results that must occur at the end of each scenario in order for the scenario to be deemed successfully completed. This includes any required outputs from the scenario, or specific actor states.

Table 3.1.4-1 Post-conditions

Post-condition	Use Case Scenario
Assume that all post-conditions from the constructs listed in the document map are incorporated	All

3.1.5 PROCESS TRIGGERS

This section describes the triggers, including actors and/or processes, which are necessary to start any scenarios, actions or events. It can be an automatic or manual process or result that in turn starts off another scenario, action or event. A trigger is not the same as a pre-condition that describes a context that needs to be in place at the start of the event.



Table 3.1.5-1 Process Triggers

Process Trigger	Use Case Scenario
No applicable process triggers	

3.2 DETAILED DESIGN

This section provides a detailed description of the technical design, along with an analysis of the main interactions and decisions between all actors, actions and data in support of the specific requirements for each scenario of the Use Case. In addition, this section provides the data element details and an overview of the HITSP constructs used to meet the business and technical requirements for this Use Case. Any variances in the Security and Privacy implementation are also described here.

Note that with respect to Security and Privacy, local implementation policy as determined by risk assessment, including assessment of jurisdictional and regulatory requirements, will determine which assurance level of nonrepudiation of origin is needed. For instance, in document-based transmissions, a low level is offered by the basic use of HITSP/TP13 - Manage Sharing of Documents construct. A medium level of assurance is offered by the use of the HITSP/TP13 construct option called "Document Integrity". A high level of assurance is offered by the use of the HITSP/C26 - Nonrepudiation of Origin construct which requires the existence of a Public Key Infrastructure (PKI) (See TN900 for a discussion on the challenges with PKI's).

Both of the Consultations and Transfers of Care scenarios are focused on the sharing of a set of information between provider systems. The following describes the sharing of data for document based data flows:

1. HITSP/T67 Clinical Referral Request Transport will pull together the request for a consultation with a referral document and all the relevant documents in a folder, and optionally sends a trigger message to the receiving system to indicate that the group of related documents is part of a referral to process.
2. Documents are formed according to HITSP/C32 Summary Documents Using HL7 Continuity of Care Document (CCD), HITSP/C48 Encounter Document Using IHE Medical Summary (XDS-MS), HITSP/C62 Unstructured Document, HITSP/C84 Consult and History & Physical Note, and HITSP/C37 Lab Report Document, and any other newly defined documents specified in Section 3.2.5.
3. These documents are then transported by one of the following:
 - a. Share the documents in the document sharing system using HITSP/TP13 Manage Sharing of Documents
 - b. Deliver the documents directly to the consulted system using HITSP/T31 Document Reliable Interchange, or
 - c. Utilize removable media (e.g., USB or CD-ROM) using HITSP/T33 Transfer of Documents on Media



4. When using option 3a above, there will additionally be a message sent to the consulted system to indicate that a consult has been requested.
5. The consult system will utilize the request for consult and the documents in the folder to assist with local management of the consultation.
6. Any requests for additional resources can be achieved through queries to the HITSP/TP13 Manage Sharing of Documents document sharing system.
7. When the consult is concluded, a summary document will be placed into the folder and returned to the ordering system.

Both scenarios also include sharing administrative and financial information between provider systems and health plan systems. The following describes the sharing of administrative data for message based flows:

1. HITSP/T85 Administrative Transport to Health Plan transports the administrative information content payload between the provider and the health plan systems.
2. The payload content is in message format. The messages are formed according to HITSP/T40 Patient Health Plan Eligibility Verification or HITSP/T68 Patient Health Plan Authorization Request and Response, or HITSP/T79 Pharmacy to Health Plan Authorization Request and Response as defined in Section 3.2.5.

3.2.1 TECHNICAL ACTOR ROLE DESCRIPTIONS

This section identifies the Technical Actors used within the Interoperability Specification. Note that a Technical Actor represents an internal software component or IT system, which supports a specific aspect of a real world business information interchange (e.g., set of message exchanges). Technical Actors implement system data exchange transactions, which support real world Business Actor information interchanges (see Section 2.2.3 for Business Actor definitions). The table below identifies the Technical Actors and provides a description of the Technical Actor roles involved in the Interoperability Specification.

Table 3.2.2-1 Technical Actor Role Descriptions

Technical Actor(s)	Actor Role	Construct
Access Control Service	The enterprise security service that supports and implements user and service access control capabilities. This service would be utilized by the Service User, and/or Service Provider	HITSP/TP20
Administrative Transport Client	A healthcare provider sending a request to a health plan has a client role	HITSP/T85
Administrative Transport Server	A health plan responding to a request from a healthcare provider has a server role	HITSP/T85
Audit Record Repository	This actor provides a repository for audit events	HITSP/T15



Technical Actor(s)	Actor Role	Construct
Audit Record Source	Creates and communicates an Audit Record to the Audit Record Repository on behalf of another actor that performs an action requiring logging	HITSP/T15
Consent Directive Requestor	Accesses Consent Directives located through a Consent Registry from Consent Repositories	HITSP/TP30
Consent Originator	Captures consent directives and may publish the consent directive as a document. It is responsible for sending Manage Consent Directive Requests to a Consent Repository. It also supplies Metadata to the Consent Repository for subsequent registration of the Consent within a Consent Registry	HITSP/TP30
Consent Registry	Responsible for providing location information and sender notification regarding Consent Directives. The Consent Registry receives a Manage Consent Directive Metadata Request	HITSP/TP30
Consent Repository	Responsible for both the persistent storage of consent directives as well as for their registration with the appropriate Consent Registry. It assigns a Uniform Resource Identifier (URI) and Metadata such as confidentiality codes to the Consent Directive for subsequent retrieval by an authorized consumer, e.g. for association with published personal health information or for evaluation at a policy decision point	HITSP/TP30
Content Consumer	Responsible for viewing, import, or other processing of content created by a Content Creator Actor	HITSP/C32, HITSP/C36, HITSP/C37, HITSP/C48, HITSP/C62, HITSP/C74, HITSP/C78, HITSP/TP30, HITSP/C84
Content Creator	Responsible for the creation of content and transmission to a Content Consumer	HITSP/C32, HITSP/C36, HITSP/C62, HITSP/C41, HITSP/C48, HITSP/C84
DNS Server	This actor has authoritative location information	HITSP/T64
Document Consumer	Queries a Document Registry Actor for documents meeting certain criteria and retrieves selected documents from one or more Document Repository Actors	HITSP/TP13 HITSP/TP89
Document Recipient	This actor receives a set of documents sent by another actor. Typically this document set will be made available to the intended recipient who will choose to either view it or integrate it into a health record	HITSP/T31
Document Registry	Maintains metadata about each registered document in a document entry. This includes a link to the Document in the Repository where it is stored. The Document Registry responds to queries from Document Consumer actors about documents meeting specific criteria. It also enforces some healthcare specific technical policies at the time of document registration	HITSP/TP13 HITSP/TP89
Document Repository	Responsible for both the persistent storage of these documents as well as for their registration with the appropriate Document Registry. It assigns a Uniform Resource Identifier (URI) to documents for subsequent retrieval by a Document Consumer	HITSP/TP13 HITSP/TP89
Document Source	Producer and publisher of documents. It is responsible for sending documents to a Document Repository Actor. It also supplies metadata to the Document Repository Actor for subsequent registration of the documents with the Document Registry Actor	HITSP/TP13 HITSP/TP89
Eligibility Information Receiver	The system that initiates an inquiry to the Eligibility Information Source about an individual's insurance eligibility, coverage and benefits	HITSP/T40



Technical Actor(s)	Actor Role	Construct
Eligibility Information Source	The system which holds and maintains the information regarding the individual's insurance eligibility, coverage and benefits, and responds to the queries initiated by the Eligibility Information Receiver	HITSP/T40
Identity Provider	Receives the credentials and identifier from the Entity (principal). It may perform authentication at that point or may require additional authentication from another source (the Service Provider)	HITSP/C19
Imaging Document Consumer	The Imaging Document Consumer Actor parses an imaging manifest document that is retrieved by the Document Consumer Actor from the Document Repository Actor and retrieves DICOM SOP Instances referenced within that manifest from the Imaging Document Source Actor	HITSP/TP89
Information Receiver for Health Plan Authorization	The system that initiates a request to the Information Source for Health Plan Authorization about an individual's health insurance requirements to obtain an authorization approval for purposes of benefit coverage determination in order to refer a patient for healthcare services	HITSP/T68 HITSP/T79
Information Source for Health Plan Authorization	The system which holds and maintains the information regarding the individual's health insurance requirements related to an authorization for benefit coverage	HITSP/T68 HITSP/T79
Initiating Gateway	Supports all outgoing inter-community communications	HITSP/TP13
Laboratory Result Message Receiver	An authorized entity that is receiving a laboratory result message	HITSP/T14
Laboratory Result Message Sender	The holder of a laboratory result who is communicating a laboratory result message to another actor	HITSP/T14
Node	The originating or terminating point of information or signal flow in a telecommunications network. This actor is equivalent to the Secure Node in the IHE-ITI-TF ATNA Transaction	HITSP/T17
Notification Receiver	Receives notifications of availability for documents in an XDS registry and may optionally send acknowledgments of them	HITSP/T29
Notification Sender	This actor sends notifications of availability for documents in an XDS registry and receives acknowledgments of these notifications	HITSP/T29
Patient Demographics Consumer	Queries the Patient Demographics Supplier for a list of patient demographic information, if any, and receives a list of corresponding patient demographic information from the Patient Demographics Supplier	HITSP/T23
Patient Demographics Supplier	Receives the query for a list of corresponding patient demographics from the Patient Demographics Consumer. Sends a list of corresponding patient demographic information to the Patient Demographics Consumer, maintains one or more Patient Information Sources of patient demographics data	HITSP/T23
Patient Identifier Cross Reference (PIX) Consumer	Queries the Patient Identifier Cross-Reference Manager for a list of corresponding patient identifiers, if any and receives a list of corresponding patient identifiers from the Patient Identifier Cross-Reference Manager	HITSP/TP22
Patient Identifier Cross Reference (PIX) Manager	Receives the query for a list of corresponding patient identifiers from the Patient Identifier Cross-Reference Consumer. Sends a list of corresponding patient identifiers to the Patient Identifier Cross-Reference Consumer. Receives patient demographic information from the Patient Identity Source	HITSP/TP22



Technical Actor(s)	Actor Role	Construct
Patient Identity Source	Sends patient demographic information when requested, assigns a unique identifier to each instance of a patient, and maintains a collection of identity traits	HITSP/TP22, HITSP/TP89
Personnel White Pages Consumer	This actor has a use for information that can be found in the Personnel White Pages Directory	HITSP/T64
Personnel White Pages Directory	This actor has authoritative Personnel White Pages information on the human workforce members of the enterprise	HITSP/T64
Portable Media Creator	The Portable Media Creator writes the selected information to media (CD-ROM, USB-Memory, e-Mail) following the directory structure outlined by XDM	HITSP/T33
Portable Media Importer	Media Importer reads the selected information from media (CD-ROM, USB-Memory, e-Mail) following the directory structure outlined by XDM	HITSP/T33
Referral Dispatcher	This actor processes requests for consultation, and determines whether they can be accepted, declined, or deferred for human decision making	HITSP/T67
Referral Requestor	This actor generates the request for consultations	HITSP/T67
Responding Gateway	Supports all incoming inter-community communications	HITSP/TP13
Service Provider	Represents the system providing a service to all entities that need an assertion or authentication. The service (or assertion) provider is the trusted third party issuer of the trustable identity assertion	HITSP/TP20
Service User	Represents any individual entity (such as a clinician or a EHR/PHR system) that needs to make a service request of a Service Provider. The Entity may also be known as a principal and/or entity, which represents an end user, an application, a machine, or any other type of entity that may act as a requester in a transaction. A principal is typically represented in a transaction with a digital identity and the principal may have multiple valid digital identities to use with different transactions	HITSP/TP20 HITSP/C19
Time Client	Establishes time synchronization with one or more Time Servers using either the Network Time Protocol (NTP) or Simple Network Time Protocol (SNTP) algorithms. Maintains the local computer system clock synchronization with Coordinated Universal Time (UTC) based on synchronization with the Time Servers	HITSP/T16
Time Server	Provides Network Time Protocol (NTP) time services to Time Clients. It is either directly synchronized to a Coordinated Universal Time (UTC) master clock (e.g. satellite time signal) or is synchronized by being grouped with a Time Client to other Time Server(s)	HITSP/T16
Value Set Consumer	An actor that receives a specific, new, or updated terminology based on its OID, and possibly its version if the latter is available	HITSP/T66
Value Set Repository	An actor that has the role of providing the Resolved Value Sets	HITSP/T66

3.2.2 CONSTRUCT REQUIREMENTS

This section incorporates the comprehensive business and technical requirements and a detailed specification of the transactions and information content specified to complete the information exchange actions identified in each Use Case scenario.

Table 6.4-1 (see Section 6.0) provides a mapping of the HITSP constructs that will be used in the design of the Interoperability Specification, and the data and information exchange requirements that are being



satisfied by the construct. These requirements are limited to those that are deemed within scope for this Interoperability Specification, which are described in Section 3.1. Further details about the required technical actors, transactions, and content are also provided in the sections below.

The Unified Modeling Language (UML) sequence diagrams used in this section incorporate the detailed data requirements for the selected standards (defined in Section 2.2.2), with the Technical Actors, and their specific and detailed Transactions and content (Table 1.2.1-1 List of Constructs). The detailed actor Transactions described in these diagrams show all common or independent technical actors, data, and the specific transactions from the HITSP constructs that are used for the Interoperability Specification.

The diagrams in this section are detailed UML sequence diagrams that illustrate the sharing of a set of clinical and administrative information between provider systems for the Consultation: Request for Consult scenario.

Figure 3.2.2-1 Consultation: Request for Consult (event 7.1.1)

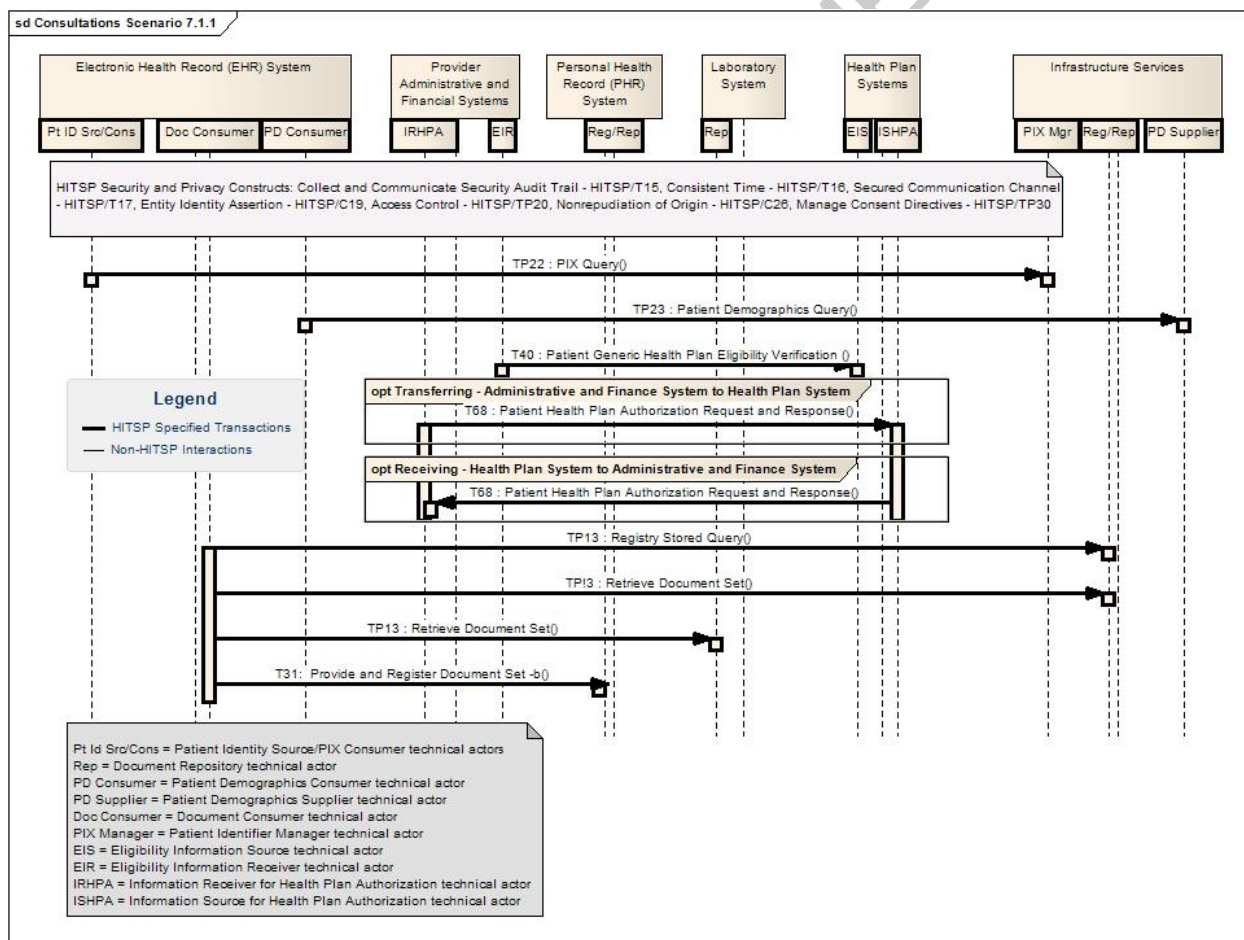


Figure 3.2.2-2 Consultation: Request for Consult (events 7.1.3, 7.1.4 and 7.1.5)

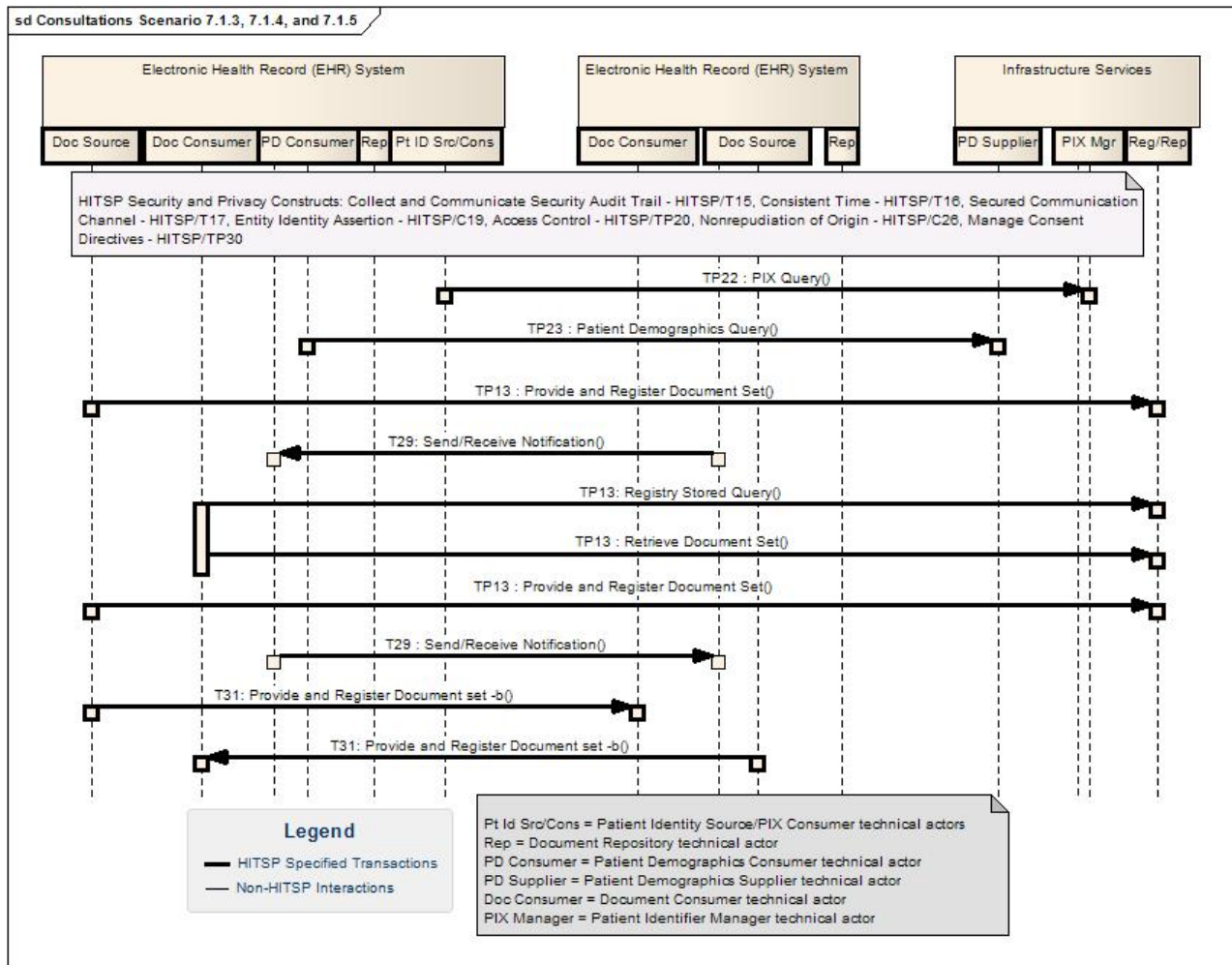
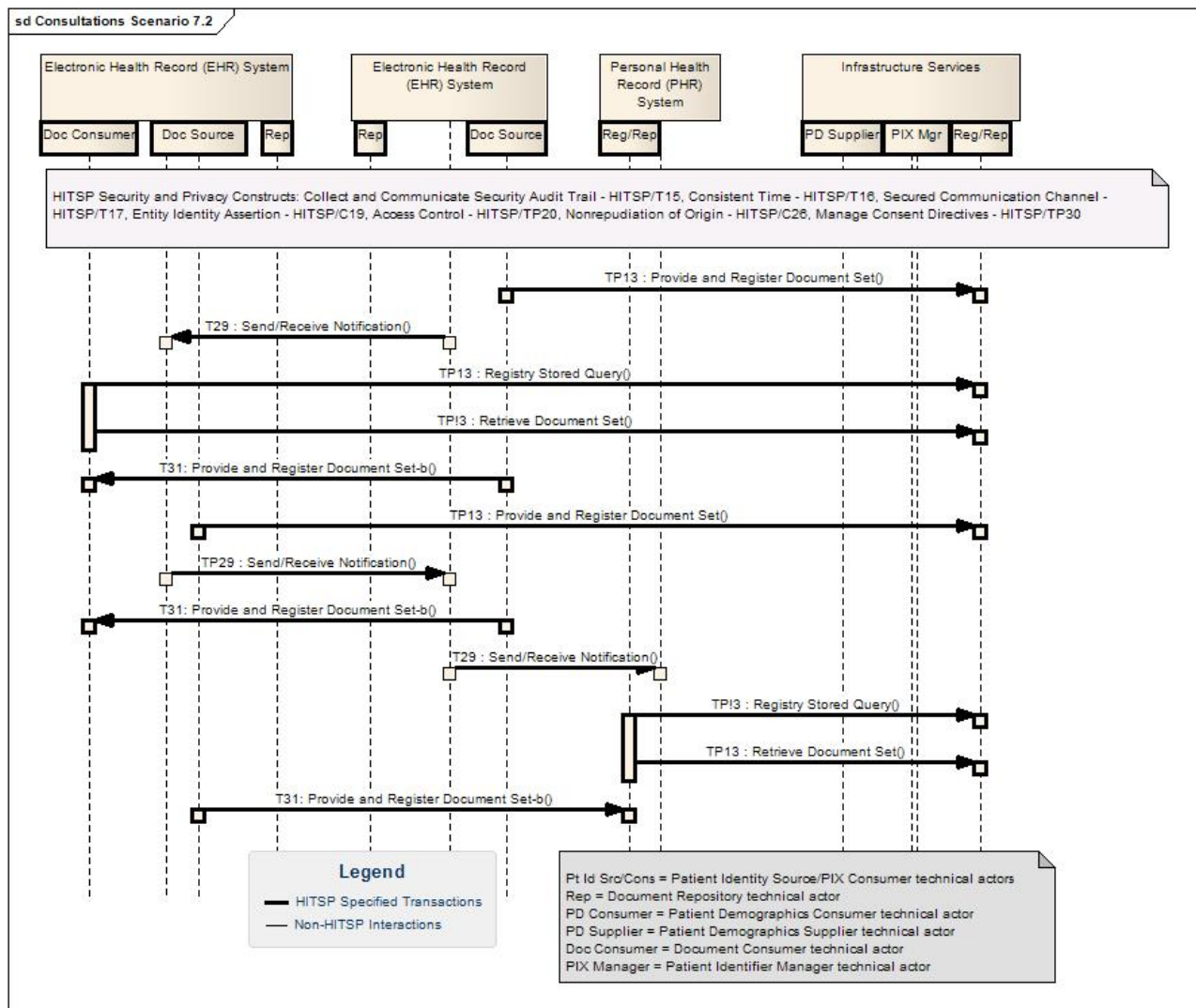


Figure 3.2.2-3 Consultation: Request for Consult (event 7.2)



The diagrams in this section are detailed UML sequence diagrams that illustrate the sharing of a set of clinical and administrative information between provider systems for the Transfers of Care Scenario.

Figure 3.2.2-4 Transfers of Care: Sharing of Clinical and Administrative Information (event 8.1.2 and 8.1.3)

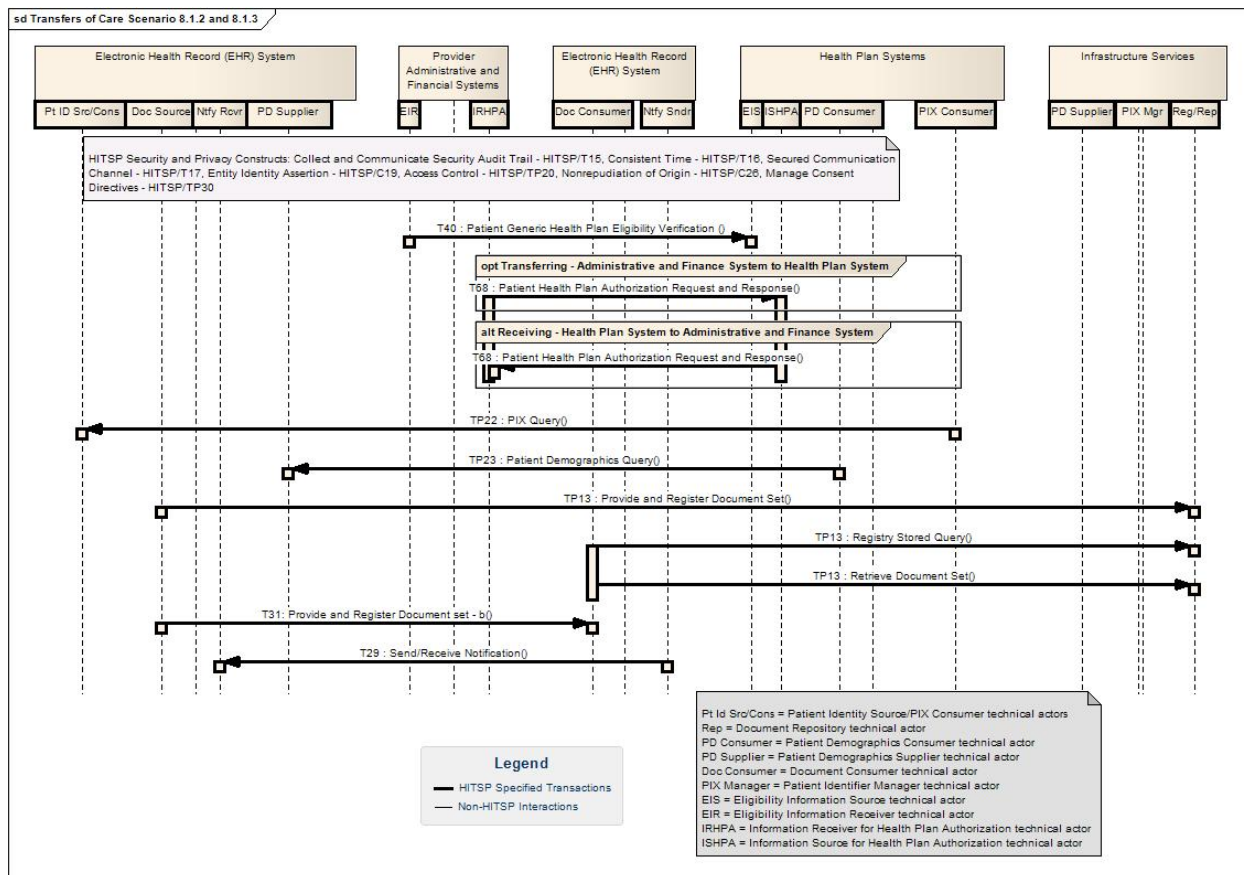


Figure 3.2.2-5 Transfers of Care: Sharing of Clinical and Administrative Information (event 8.1.4, 8.1.5 and 8.1.6)

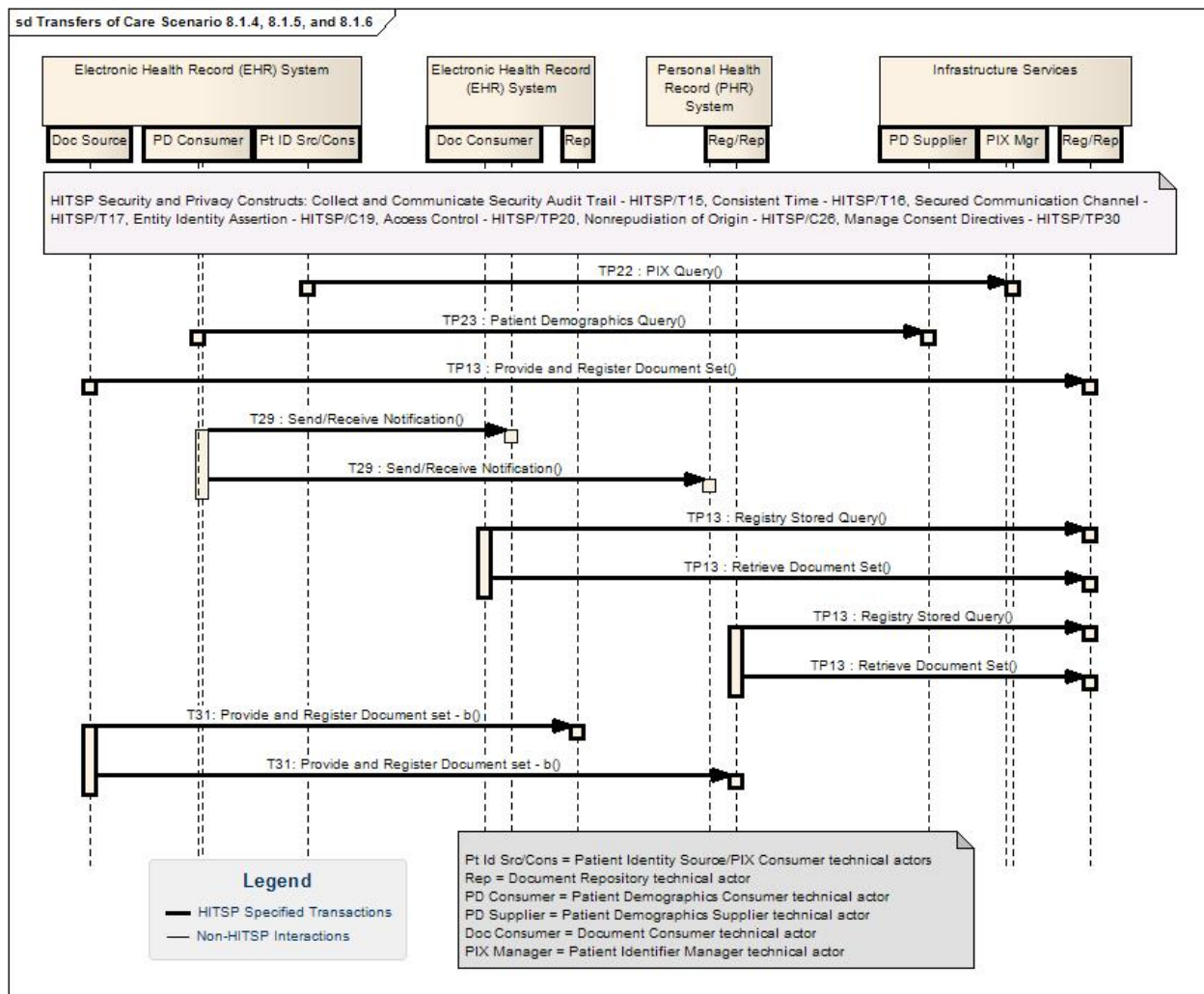


Figure 3.2.2-6 Transfers of Care: Sharing of Clinical and Administrative Information (event 8.2)

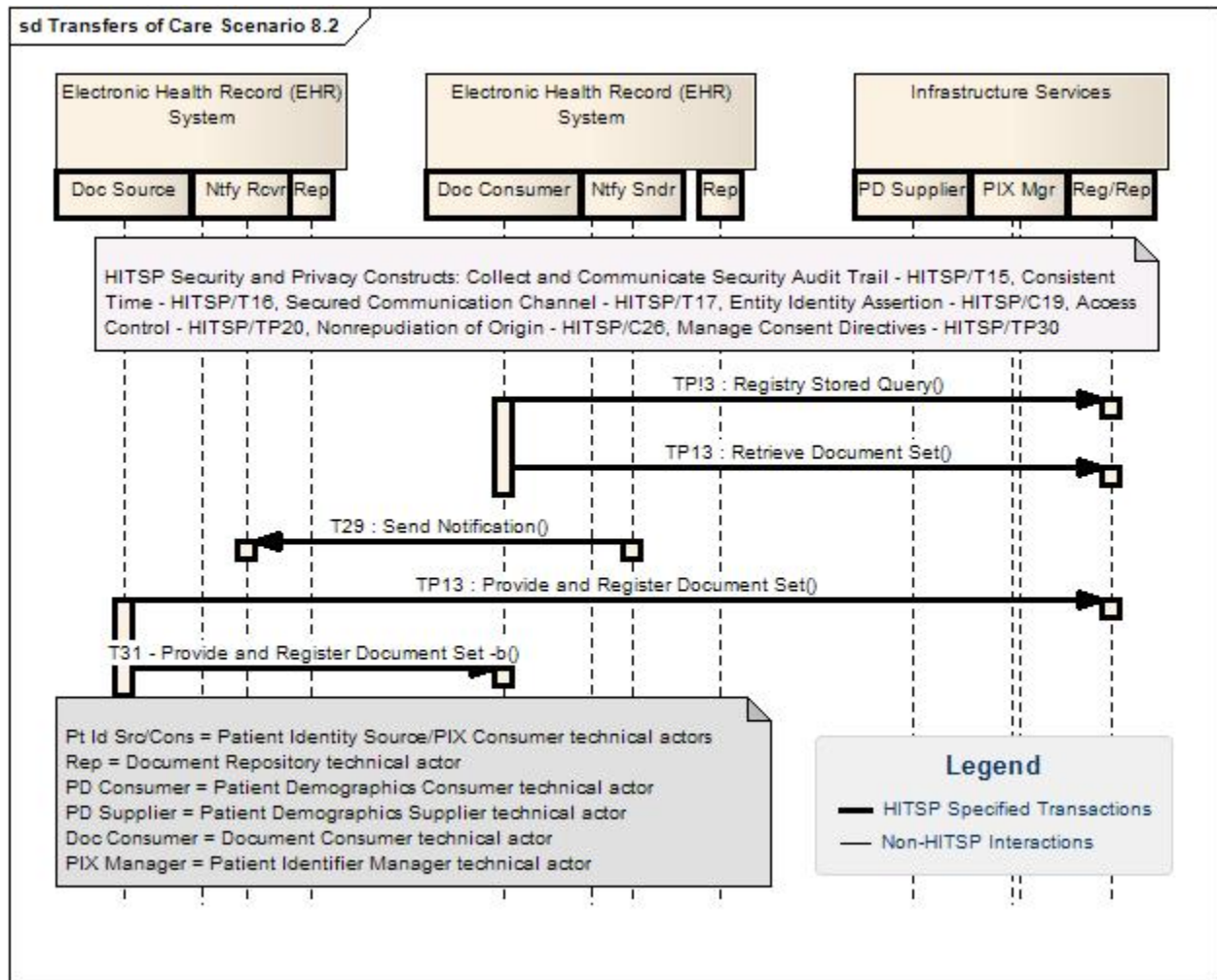
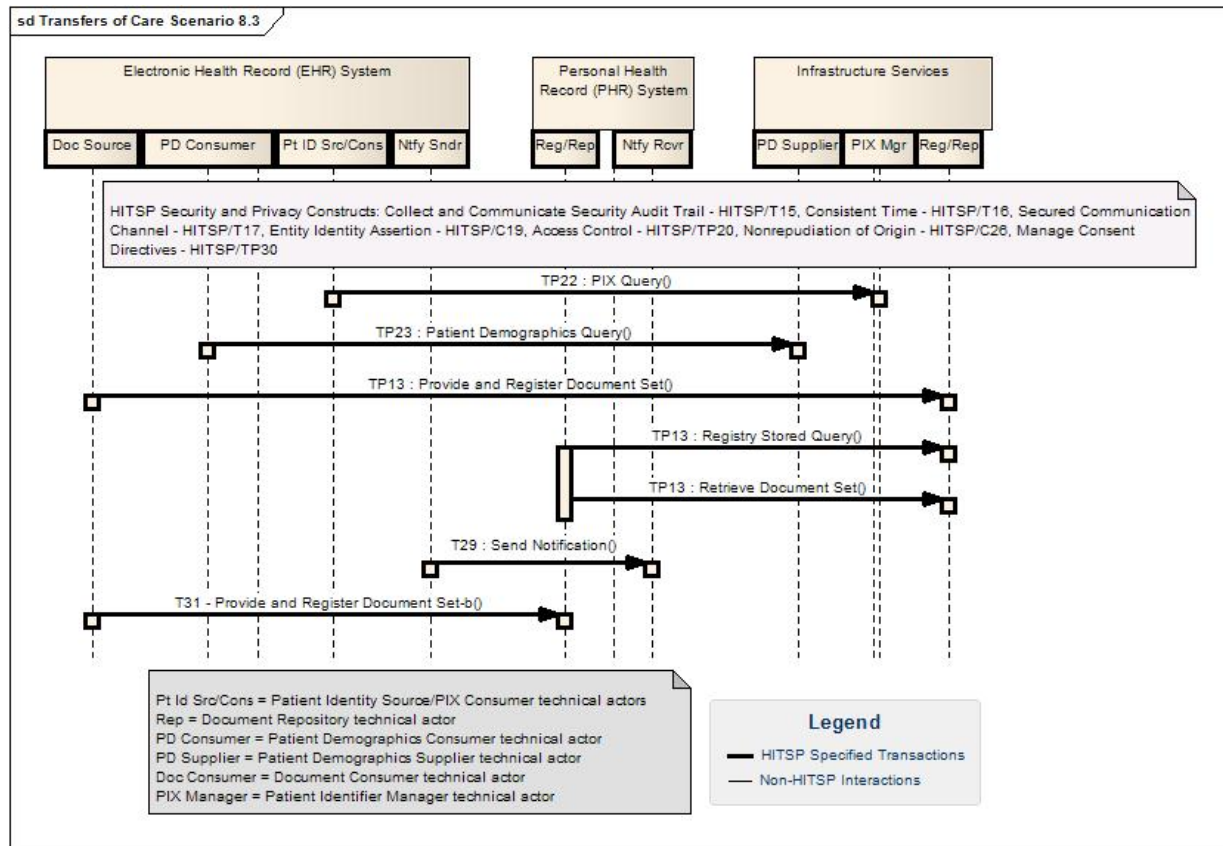


Figure 3.2.2-7 Transfers of Care: Sharing of Clinical and Administrative Information (event 8.3)



3.2.3 MAPPING OF BUSINESS ACTORS TO TECHNICAL ACTORS AND CONSTRUCTS WITH OPTIONALITY

The table below maps the individual business actors to the technical actors defined in the Interoperability Specification and depicted in the above detailed UML sequence diagram. Table 3.2.3-1 below specifies the requirements associated with each business actor in the Interoperability Specification. For each implemented business actor, the table specifies the following:

1. All Required or Conditionally Required technical actors listed for the business actor shall be supported as specified in the associated construct
2. Optional technical actors listed for the business actor may be supported as specified in the associated construct
3. All Required or Conditionally Required transactions and content subsets listed for each implemented technical actor assigned to the business actor shall be supported as specified in the associated construct
4. Optional transactions and content subsets listed for each implemented technical actor assigned to the business actor may be supported as specified in the associated construct



This table also includes the corresponding technical actors associated with the relevant Security and Privacy constructs that are used for this Interoperability Specification. Section 1.2 provides a summary description of all the referenced HITSP constructs. Note that this table only shows the business and technical actors that are implemented by the specification. Business actors that are out of scope, or gaps are not included in this section, however, they are discussed in Section 3.1 if they are out of scope, or in Section 4.2 if they are found to be gaps where there are no standards.

Note that all the business actors in the table below use the services provided by the Infrastructure Services business actor. Technical actors that are listed in the Infrastructure Services business actor are grouped there for convenience but may be implemented centrally in one place or distributed across several other business actors or edge systems.

Table 3.2.3-1 Business Technical Actor Mapping to Transaction and/or Content

Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
Electronic Health Record (EHR) System	Patient Identity Source	C [101]	HITSP/TP22	Patient Identify Feed	O
			HITSP/TP22	Patient Identity Management	O
	Patient Identifier Cross Reference (PIX) Consumer	C [101]	HITSP/TP22	PIX Query	R
	Patient Demographic Consumer	C [101] , [109]	HITSP/T23	Patient Demographics Query	R
	Document Source	C [111]	HITSP/TP13	Provide & Register Document Set-b (XDS.b)	R
			HITSP/T31	Provide & Register Document Set.b	R
			HITSP/C19	Convey Assertion	O
	Document Consumer	C [106] , [110] , [112]	HITSP/TP13	Registry Stored Query	R
				Retrieve Document Set	R
			HITSP/C19	Convey Assertion	O
	Document Repository	O [107]	HITSP/TP13	Retrieve Document Set	R
				Provide & Register Document Set-b (XDS.b)	R
				Register Document Set-b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Content Creator	R	HITSP/C62	Unstructured Document	O
			HITSP/C48	Encounter Document Using IHE Medical Summary (XDS-MS)	R
			HITSP/C84	Consult and History & Physical Note	R
			HITSP/TP30	Consent Document	R
			HITSP/C37	Creator-Lab Report Document Component	O
	Consent Directive Requester	O [108]	HITSP/TP30	Stored Query	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Content Consumer	C [113]	HITSP/C32	Retrieve Document Set	R
				Consumer-Document Display	R
				Consumer-Document Import	O
			HITSP/TP30	Consumer-Document Discrete Data Import	O
				Consent Document Component	R
				Laboratory Result Message	R
			HITSP/C37	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
		R	HITSP/C48	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C84	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C62	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C74	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C78	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
	Imaging Document Consumer	R	HITSP/TP89	Retrieve Images [RAD-16]	C [103]
				WADO Retrieve [RAD-55]	C [103]
	Audit Record Source	R [107]	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R [107]	HITSP/T16	Maintain Time	R
	Node	R [107]	HITSP/T17	Secured Communication Channel	R
	Identity Provider	C [116]	HITSP/C19	Provide Assertion	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
				Verify Assertion	O
	Access Control Service	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
	Laboratory Result Message Receiver	C [105]	HITSP/T14	Laboratory Results	R
	Laboratory Result Message Sender	C [102]	HITSP/T14	Send Laboratory Results	R
	Notification Receiver	C [109]	HITSP/T29	Receive Notification	R
				Send Acknowledgement	R
	Notification Sender	R	HITSP/T29	Send Notification	R
				Send Acknowledgement	
	Referral Requestor	R	HITSP/T67	Convey/Request Referral	R
	Referral Dispatcher	R	HITSP/T67	Convey/Request Referral	R
	Document Recipient	C [104] , [112]	HITSP/T31	Provide & Register Document Set.b	R
			HITSP/C19	Convey Assertion	O
	Portable Media Creator	C [111]	HITSP/T33	Distribute Document Set on Media	R
	Portable Media Importer	C [112]	HITSP/T33	Distribute Document Set on Media	R
	Service User	R	HITSP/TP20	Access Control Request	O
	Personnel White Pages Consumer	O	HITSP/T64	Find Personnel White Pages	O
				Query Personnel White Pages	R
	Value Set Consumer (user)	R	HITSP/T66	Retrieve Value Set	R
	Imaging Document Consumer	R	HITSP/TP89	Retrieve Images [RAD-16]	C [103]
				WADO Retrieve [RAD-55]	C [103]
Personal Health Record (PHR) System	Patient Identity Source	C [101]	HITSP/TP22	Patient Identify Feed	R
			HITSP/T23	Patient Demographics Query	R
			HITSP/T23	PIX Identity Feed	R
	Patient Identifier Cross Reference (PIX) Consumer	C [101]	HITSP/TP22	PIX Query	R
	Patient Demographic Consumer	C [101] , [109]	HITSP/T23	Patient Demographics Query	R
	Initiating Gateway	O	HITSP/TP13	Cross Gateway Query	R
				Cross Gateway Retrieve	R
	Responding Gateway	O	HITSP/TP13	Cross Gateway Query	R
				Cross Gateway Retrieve	R
	Document Source	C [111]	HITSP/TP13	Provide & Register Document Set-b (XDS.b)	R
			HITSP/T31	Provide & Register Document Set.b	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Document Consumer	C [106] , [110] , [112]	HITSP/C19	Convey Assertion	O
			HITSP/TP13	Registry Stored Query	R
				Retrieve Document Set	R
	Document Repository	O [107]	HITSP/C19	Convey Assertion	O
			HITSP/TP13	Retrieve Document Set	R
				Provide & Register Document Set-b (XDS.b)	R
				Register Document Set-b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Content Creator	R	HITSP/C32	Creator-Transfers of Care Request Subset (see Section 3.2.3.1)	C [114]
				Creator-Consultation Request Subset (see Section 3.2.3.2)	C [115]
			HITSP/C62	Unstructured Document	O
			HITSP/TP30	Consent Document	R
		O	HITSP/C37	Creator-Lab Report Document	R
	Consent Directive Requester	O [108]	HITSP/TP30	Stored Query	R
				Retrieve Document Set	R
	Content Consumer	C [113]	HITSP/C32	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/TP30	Consent Document	R
			HITSP/C37	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
		R	HITSP/C48	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C84	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C62	Consumer-Document Display	R
				Consumer-Document Import	O



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
				Consumer-Document Discrete Data Import	O
				Consumer-Document Display	R
				Consumer-Document Import	O
			HITSP/C78	Consumer-Document Discrete Data Import	O
				Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
	Audit Record Source	R [107]	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R [107]	HITSP/T16	Maintain Time	R
	Node	R [107]	HITSP/T17	Secured Communication Channel	R
	Service User	R	HITSP/TP20	Access Control Request	O
	Identity Provider	C [116]	HITSP/C19	Provide Assertion	R
				Verify Assertion	O
	Access Control Service	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
	Notification Receiver	C [109]	HITSP/T29	Receive Notification	R
				Send Acknowledgement	R
	Notification Sender	R	HITSP/T29	Send Notification	R
				Send Acknowledgement	
	Referral Requestor	R	HITSP/T67	Convey/Request Referral	R
	Referral Dispatcher	R	HITSP/T67	Convey/Request Referral	R
	Document Recipient	C [104] , [112]	HITSP/T31	Provide & Register Document Set.b	R
			HITSP/C19	Convey Assertion	O
	Laboratory Result Message Receiver	R	HITSP/T14	Laboratory Results	R
	Portable Media Creator	C [111]	HITSP/T33	Distribute Document Set on Media	R
	Portable Media Importer	C [112]	HITSP/T33	Distribute Document Set on Media	R
	Patient Identifier Cross-Reference (PIX) Consumer	C [101]	HITSP/TP22	PIX Query	R
	Patient Demographic Consumer	C [101] , [109]	HITSP/T23	Patient Demographics Query	R
	Service User	R	HITSP/TP20	Access Control	O
	Personnel White Pages	O	HITSP/T64	Find Personnel White Pages	O



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Consumer			Query Personnel White Pages	R
	Value Set Consumer (user)	R	HITSP/TP66	Retrieve Value Set	R
	Imaging Document Consumer	R	HITSP/TP89	Retrieve Images [RAD-16]	C 103
				Retrieve Key Image Note [RAD-31]	O
				WADO Retrieve [RAD-55]	C 103
Diagnostic Imaging Information System	Document Source	C 111	HITSP/TP13	Provide & Register Document Set-b (XDS.b)	R
			HITSP/T31	Provide & Register Document Set-b	R
			HITSP/C19	Convey Assertion	O
	Document Repository	O 107	HITSP/TP13	Provide & Register Document Set-b (XDS.b)	R
				Register Document Set-b (XDS.b)	R
				Retrieve Document	R
			HITSP/C19	Convey Assertion	O
	Document Recipient	C 104 , 112	HITSP/T31	Provide & Register Document Set.b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Document Consumer	C 106 , 110 , 112	HITSP/TP13	Registry Stored Query	R
				Retrieve Document Set	R
			HITSP/C19	Convey Assertion	O
	Imaging Document Consumer	R	HITSP/TP89	Retrieve Images [RAD-16]	R
				Retrieve Presentation States [RAD-17]	O
				Retrieve Reports [RAD-27]	O
				Retrieve Key Image Note [RAD-31]	O
				Retrieve Evidence Documents [RAD-45]	O
				WADO Retrieve [RAD-55]	O
	Referral Dispatcher	R	HITSP/T67	Convey/Request Referral	R
	Imaging Document Source	R	HITSP/TP89	Provide & Register Imaging Document Set [RAD-54]	R
				Retrieve Images [RAD-16]	R
				Retrieve Presentation States [RAD-17]	R
				Retrieve Reports [RAD-27]	R
				Retrieve Key Image Note [RAD-31] R	R
				Retrieve Evidence Documents [RAD-45]	R
				WADO Retrieve [RAD-55]	R
	Notification Sender	R	HITSP/T29	Send Notification	R
				Receive Acknowledgement	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Notification Receiver	C [109]	HITSP/T29	Receive Notification	R
				Send Acknowledgement	R
	Patient Identity Source	C [101]	HITSP/TP22	Patient Identity Feed	R
	Patient Identifier Cross-Reference (PIX) Consumer	C [101]	HITSP/TP22	PIX Query	R
	Patient Demographics Consumer	C [101] , [109]	HITSP/T23	Patient Demographic Query	R
	Audit Record Source	R [107]	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R [107]	HITSP/T16	Maintain Time	R
	Node	R [107]	HITSP/T17	Secured Communication Channel	R
	Consent Directive Requestor	O [108]	HITSP/TP30	Stored Query	R
				Retrieve Document Set-b	R
	Service User	R	HITSP/TP20	Access Control Request	O
	Access Control Service	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	R
	Identity Provider	C [116]	HITSP/C19	Provide Assertion	R
				Verify Assertion	O
	Content Creator	O	HITSP/C32	Creator-Summary Document using HL7 Continuity of Care Record CCD	R
			HITSP/C48	Encounter Document Using IHE Medical Summary (XDS-MS)	R
			HITSP/C84	Consult and History & Physical Note	R
		R	HITSP/C41	Radiology Result Message	R
			HITSP/TP30	Consent Document	R
	Content Consumer	C [113]	HITSP/C32	Consumer-Document Display	R
				Consumer-Document Import	O
			HITSP/C37	Consumer-Document Display	R
				Consumer-Document Import	O
		R	HITSP/C48	Encounter Document Using IHE Medical Summary (XDS-MS)	R
			HITSP/TP30	Consent Document	R
			HITSP/C36	Laboratory Result Message	R
			HITSP/C84	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C62	Consumer-Document Display	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C74	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C78	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
	Laboratory Result Receiver	R	HITSP/T14	Laboratory Results	R
	Portable Media Creator	C [111] , [112]	HITSP/T33	Distribute Document Set on Media	R
	Portable Media Importer	C [112]	HITSP/T33	Distribute Document Set on Media	R
	Initiating Gateway	O	HITSP/TP13	ITI-38: Cross Gateway Query	R
				ITI-39: Cross Gateway Retrieve	R
	Value Set Consumer (user)	R	HITSP/T66	Retrieve Value Set	R
	Responding Gateway	O	HITSP/TP13	ITI-38: Cross Gateway Query	R
ITI-39: Cross Gateway Retrieve				R	
Retrieve Document Set-b				R	
Laboratory Information Systems	Laboratory Result Sender	R	HITSP/T14	Send Laboratory Results	R
	Document Source	C [105]	HITSP/TP13	Provide & Register Document Set-b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Document Recipient	C [104]	HITSP/T31	Provide & Register Document Set.b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Document Repository	O [107]	HITSP/TP13	Retrieve Document Set	R
				Provide and Register Document Set-b (XDS.b)	R
				Register Document Set-b (XDS.b)	R
			HITSP/C19	Convey Assertion	O
	Document Consumer	C [106] , [110] , [112]	HITSP/TP13	Registry Stored Query	R
				Retrieve Document Set	R
			HITSP/C19	Convey Assertion	O
	Referral Dispatcher	R	HITSP/T67	Convey/Request Referral	R
	Notification Sender	R	HITSP/T29	Send Notification	R
				Receive Acknowledgement	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Patient Identity Source	C [101]	HITSP/TP22	Patient Identity Feed	R
			HITSP/T23	Patient Demographics Query	R
				PIX Identity Feed	R
	Patient Identifier Cross-Reference (PIX) Consumer	C [101]	HITSP/TP22	PIX Query	R
	Patient Demographics Consumer	C [101] , [109]	HITSP/T23	Patient Demographics Query	R
	Content Creator	R	HITSP/C36	Content Creator	R
			HITSP/C37	Creator-Lab Report Document	R
			HITSP/TP30	Consent Document	R
		O	HITSP/C48	Encounter Document Using IHE Medical Summary (XDS-MS)	R
			HITSP/C84	Consult and History & Physical Note	R
	Consent Directive Requester	O [108]	HITSP/TP30	Stored Query	R
				Retrieve Document Set	R
	Content Consumer	C [113]	HITSP/C32	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/TP30	Consent Document	R
			HITSP/C37	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
		R	HITSP/C36	Content Creator	R
			HITSP/C48	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C84	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C62	Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
			HITSP/C74	Consumer-Document Display	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
			HITSP/C78	Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
				Consumer-Document Display	R
				Consumer-Document Import	O
				Consumer-Document Discrete Data Import	O
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R [107]	HITSP/T16	Maintain Time	R
	Node	R [107]	HITSP/T17	Secured Communication Channel	R
	Service User	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
	Value Set Consumer (user)	R	HITSP/T66	Retrieve Value Set	R
	Laboratory Result Message Receiver	R	HITSP/T14	Laboratory Results	R
	Laboratory Result Message Sender	R	HITSP/T14	Send Laboratory Results	R
	Identity Provider	C [116]	HITSP/C19	Provide Assertion	R
				Verify Assertion	O
Provider Administrative and Financial System	Eligibility Information Receiver	R	HITSP/T40	Eligibility Information Request	R
				Eligibility Information Response	R
	Information Receiver for Health Plan Authorization	R	HITSP/T68	Health Plan Authorization Information Request	R
				Health Plan Authorization Information Response	R
	Information Receiver for Health Plan Authorization	R	HITSP/T79	Health Plan Authorization Information Request	R
				Health Plan Authorization Information Response	R
	Administrative Transport (Client)	R	HITSP/T85	Any ASC X12 transaction	R
	Consent Directive Requester	O	HITSP/TP30	Stored Query	R
				Retrieve Document Set	R
	Content Consumer	R	HITSP/TP30	Consent Document	R
	Audit Record Source	R	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R	HITSP/T16	Maintain Time	R
	Node	R	HITSP/T17	Secured Communication Channel	R
	Service User	R	HITSP/TP20	Access Control Request	O



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
	Access Control Service	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
Health Plan (System)	Eligibility Information Source	R	HITSP/T40	Eligibility Information Request	R
				Eligibility Information Response	R
	Information Source for Health Plan Authorization	R	HITSP/T68	Health Plan Authorization Information Request	R
				Health Plan Authorization Information Response	R
	Information Source for Health Plan Authorization	R	HITSP/T79	Health Plan Authorization Information Request	R
				Health Plan Authorization Information Response	R
	Administrative Transport Server	R	HITSP/T85	Any ASC X12 transaction	R
	Service User	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
	Audit Record Source	R	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	O	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R	HITSP/T16	Maintain Time	R
	Time Server	O	HITSP/T16	Maintain Time	R
	Node	R	HITSP/T17	Secured Communication Channel	R
	Access Control Service	R	HITSP/TP20	Access Control Request	O
	Content Creator	R	HITSP/TP30	Consent Document	R
	Content Consumer	R	HITSP/TP30	Consent Document	R
	Consent Directive Requester	O	HITSP/TP30	Stored Query	R
				Retrieve Document Set	R
Infrastructure Services	Patient Identifier Cross Reference (PIX) Manager	C [116]	HITSP/TP22	Patient Identity Feed	R
				PIX Query	R
				PIX Update Notification	R
	Patient Demographics Supplier	C [116]	HITSP/T23	Patient Demographics Query	R
	Document Registry	C [117]	HITSP/TP13	PIX Identity Feed	R
				Registry Stored Query	R
				Register Document Set-b	R
			HITSP/C19	Convey Assertion	O
	Document Repository	C [116]	HITSP/TP13	Retrieve Document	R
				Retrieve Document Set-b	R
				Provide & Register Document Set-b	R



Business Actor	Technical Actor(s)	Actor Optionality*	Construct	Transaction/Content (T/C)	T/C Optionality*
			HITSP/C19	Convey Assertion	O
	Initiating Gateway	O	HITSP/TP13	Cross Gateway Query	R
				Cross Gateway Retrieve	R
	Responding Gateway	O	HITSP/TP13	Cross Gateway Query	R
				Cross Gateway Retrieve	R
	Audit Record Source	R	HITSP/T15	Record Audit Event in Repository	R
	Audit Record Repository	C ^[116]	HITSP/T15	Record Audit Event in Repository	R
	Time Client	R	HITSP/T16	Maintain Time	R
	Time Server	C ^[116]	HITSP/T16	Maintain Time	R
	Node	R	HITSP/T17	Secured Communication Channel	R
	Identity Provider	C ^[116]	HITSP/C19	Provide Assertion	R
				Verify Assertion	O
	Service User	R	HITSP/TP20	Access Control Request	O
	Service Provider	R	HITSP/TP20	Access Control Request	O
	Access Control Service	C ^[116]	HITSP/TP20	Access Control Request	R
	Consent Registry	C ^[117]	HITSP/TP30	Register Document Set	R
				Stored Query	R
	Consent Repository	C ^[116]	HITSP/TP30	Provide and Register Document Set	R
				Register Document Set	R
				Retrieve Document	R
	Consent Directive Requester	R	HITSP/TP30	Stored Query	R
				Retrieve Document Set	R
	DNS Server	R ^[116]	HITSP/T64	Find Personnel White Pages	R
	Personnel White Pages Directory	C ^[116]	HITSP/T64	Query Personnel White Pages	R
	Personnel White Pages Consumer	O	HITSP/T64	Find Personnel White Pages	O
				Query Personnel White Pages	R
	Value Set Consumer (user)	R	HITSP/T66	Retrieve Value Set	R
	Value Set Repository	R ^[116]	HITSP/T66	Retrieve Value Set	R

***NOTE:** Optionality = “R” for Required, or “O” for Optional, or “C” for Conditional. Conditional footnotes are further described in Table 3.2.3-2 below.

Implementation Conditions/Constraints

The following table describes the implementation conditions or constraints placed on the technical actors, transactions, or content. The constraint codes listed below correspond to the codes placed in the Actor and Transaction/Content optionality column in Table 3.2.3-1 above. For example, the Patient Demographics Consumer Technical Actor has an optionality code of C^{[105] [106]} which represents a conditionally required Actor with the constraint codes of 105 and 106 described in the table below.



Table 3.2.3-2 Implementation Conditions/Constraints

Constraint Code	Constraint Description
101	Shall support (Patient Identity Source plus PIX Consumer) and/or Patient Demographics Consumer
102	EHR system shall support either the Laboratory Result Sender Technical Actor or the Document Source Technical Actor or both actors
103	Business actor shall support at least one of these technical actors to communicate image content
104	Shall be supported if this actor is a Document Recipient Technical Actor
105	EHR system shall support either the Laboratory Result Receiver Technical Actor or the Document Consumer Technical Actor or both actors
106	Document Source or Consent Directive Consumer Technical Actors shall support either the XDS.b option or the XCA option or both options
107	Shall be grouped with Laboratory Results Receiver and Document Consumer when implemented
108	Shall be grouped with Document Consumer when implemented
109	Shall only be implemented when supporting a Document Consumer Technical Actor
110	Document Source, Document Consumer, Document Repository, and Document Registry shall support the XDS.b option
111	Business actor shall support at least one of these technical actors to communicate outbound content
112	Business actor shall support at least one of these technical actors to receive or retrieve inbound content
113	Business actor shall support these as needed for the consultation or transfer of care
114	Required when sending a Consultation Request
115	Required when sending a Transfer of Care Request
116	There must be at least one in a group of business actors
117	There can be ONLY one in a group of business actors

The following sections describe the implementation subset options by which the specification may be implemented in a limited manner. These implementation subsets are focused on delivering specific content. Any dependencies between subsets, and business actors are also described. Conformance considerations for implementing this Interoperability Specification and any of its subsets are described in detail in Section 5.0.

3.2.3.1 C32 Creator-Consultation Request Subset

Table 3.2.3.1-1 Creator-Consultation Request Subset Modules

Content Modules
Person Information
Language Spoken
Support
Healthcare Provider
Insurance Provider



Content Modules
Allergy/Drug Sensitivity
Condition
Medication – Prescription and Non-Prescription
Pregnancy
Information Source
Comment
Advance Directive
Immunization
Vital Sign
Encounter
Procedure

3.2.3.2 C32 Creator-Transfers of Care Request Subset

Table 3.2.3.2-1 Creator-Transfers of Care Request Subset Modules

Content Modules
Person Information
Language Spoken
Support
Healthcare Provider
Insurance Provider
Allergy/Drug Sensitivity
Condition
Medication – Prescription and Non-Prescription
Pregnancy
Information Source
Comment
Advance Directive
Immunization
Vital Sign
Encounter
Procedure



3.2.4 CONSTRUCT DEPENDENCIES

The following table shows a list of constructs with their existing dependencies. Dependencies usually exist when there are some additional pre-requisites for a specific construct. To support a dependent construct, a technical actor must implement all the required actions in the pre-requisite construct, or be grouped together with another construct as specified in the table below:

Table 3.2.4-1 Construct Dependencies

Construct	Depends On (Name of construct that it depends on)	Dependency Type (Pre-condition, Post-condition, General)	Purpose (Reason for this dependency)
HITSP/T40 – Patient Health Plan Eligibility Verification HITSP/T68 – Patient Health Plan Authorization Request and Response HITSP/T79 – Pharmacy to Health Plan Authorization Request and Response	HITSP/T85 – Administrative Transport to Health Plan	Pre-condition	HITSP/T85 is the transport mechanism for HITSP/T40, HITSP/T68 and HITSP/T79
HITSP/C32 – Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/C84 – Consult and History & Physical Note	HITSP/C83 – CDA Content Modules	General	HITSP/C83 defines the structure for HITSP/C32, HITSP/C48, and HITSP/C84
HITSP/C32 – Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/C83 – CDA Content Modules HITSP/C84 – Consult and History & Physical Note	HITSP/C80 – Clinical Document Message Terminology	General	HITSP/C80 is the content module that defines the vocabulary for HITSP/C32, HITSP/C48, HITSP/C83 and HITSP/C84

3.2.5 ADDITIONAL CONSTRAINTS ON REQUIRED CONSTRUCTS

This section describes the constraints that further limit the constructs that are used by this Interoperability Specification.

Table 3.2.5-1 Additional Constraints on Required Constructs

Data Element	Construct	Constraint	Constraint Type (Pre-condition, Post-condition, General)	Purpose (Reason for this constraint)
No applicable additional constraints				



4.0 STANDARDS SELECTION

This section presents the standards required to support each major Use Case event. Standards selection is based on the following process:

- Evaluation: The Technical Committee evaluates the standards using the Tier 2 Readiness Criteria.
- Selection: Based on the Tier 2 evaluations, named standards are selected and listed in the table of selected standards below. It is important to understand that the standards selected here are within the context of the specific Use Case requirements and do not necessarily reflect selection in other contexts
- Gap and Overlap Analysis and Recommendations: The Technical Committee also identifies and analyzes gaps and overlaps within the standards industry as they relate to the specific Use Case. The Technical Committee provides a description of the gaps, including missing or incomplete standards, a description of all overlaps, or competition among standards for the relevant Use Cases, and recommendations for resolving these gaps and overlaps

It is HITSP's policy to incorporate only standards that have been approved according to the formal policy of the standards organization, as defined by HITSP, which publishes the standard. HITSP interprets approval to include Draft Standards for Trial Use. The objective is to incorporate only standards that are managed within a formal life cycle process as defined by the standards organization. In some cases, where we believe a standard that is not yet approved may best meet the requirements of an Interoperability Specification, HITSP may provide a roadmap of its future intent conditional on future actions by either or both the standards organization and the HITSP Technical Committee. Thus there are four classes of HITSP-committed standards.

- Approved for Use – standards included for unconditional use within a HITSP construct
- Interim – standards included for use now within a HITSP construct but for a defined time period or conditional on future actions, e.g., "Intended for Use" standard is available
- Provisional - standards that are not yet but are expected to be approved by the standards organization at the time the Interoperability Specification is released by HITSP. A "Provisional" standard becomes an "Approved for Use" standard only if:
 - It is approved by the Standards Organization by the time that the Interoperability Specification is released by HITSP and
 - It is substantially the same as it was when it was provisionally used and
 - It requires no further action by the Technical Committee
- Intended for Use – proposed standards that are roadmapped for future use pending actions by the Technical Committee and/or the standards organization. Therefore a standard is defined as "Intended for Use" if it will not be approved by the standard organization at the time that the HITSP construct is released, but is sufficiently defined to enable detailed evaluation of how well it will meet technical and information exchange requirements.



HITSP may continue to use “Provisional” or “Interim” standards as they existed when incorporated into the HITSP construct if the expected conditions are not satisfied until such time as HITSP can replace it with a more suitable standard. In this circumstance, the standards organization would have no responsibility to maintain or correct this artifact. If a standard “Intended for Use” is not developed and approved in terms of time frame or content as expected by the Technical Committee at the time of its initial selection, it may be replaced. All standards used by HITSP must meet the HITSP selection criteria. The use of “Interim” and “Intended for Use” standards will be weighed against the alternative of simply declaring a gap for HITSP and the standards organizations to resolve.

4.1 STANDARDS

It is important to understand that the standards selected here are within the context of the specific Use Case requirements and do not necessarily reflect selection in other contexts. In addition, adherence to the selected standards alone is not sufficient to ensure interoperability. In order to ensure interoperability for the Use Case, and to claim conformance to the specification, an implementation must satisfy all the requirements and mandatory statements listed in the HITSP Interoperability Specification, its associated construct specifications, as well as conformance criteria from the selected base and composite standards. A conformant system must also be constrained as specified in Table 3.1.2-1, and implement all of the required technical actors from Table 3.2.3-1, within the scope and implementation subset that is selected.

The standards used by this Interoperability Specification fall into the following categories:

- Regulatory guidance is a legal or other authoritative declaration that HITSP must abide by in standards selection (see Section 4.1.1)
- Selected standards are necessary for interoperability. These are standards that are used to meet information exchange requirements of associated constructs. For example, they are used to realize direct information exchange, to provide the transport mechanism, to specify the content, or to address security (see Section 4.1.2)
- Informative reference standards provide additional background information or guidance, and are not required for interoperability. These standards are not required to implement the Interoperability Specification (see Section 4.1.3)

4.1.1 REGULATORY GUIDANCE

The following table provides a list of legal or other authoritative guidelines that HITSP must abide by, or has agreed to use as guidance in the selection of standards. Note that only the referenced sections of the regulations are relevant to this Interoperability Specification.



Table 4.1.1-1 Regulatory and Guidance

Standard	Description
Clinical Laboratory Improvement Amendments (CLIA) of 1988	Establishes quality standards for all laboratory testing to ensure the accuracy, reliability, and timeliness of patient test results regardless of where the test is performed. The Centers for Medicare and Medicaid Services (CMS) regulates all laboratory testing (except research) performed on humans in the U.S. based on CLIA. For more information visit www.fda.gov and www.cms.hhs.gov .
Health Insurance Portability and Accountability Act (HIPAA) -- Administrative Simplification	A listing of national standards plus rules adopted by federal regulation for electronically communicating specified administrative and financial healthcare transactions, and protecting the security and privacy of healthcare information, as applied to the three types of defined covered entities: health plans, healthcare clearinghouses, and healthcare providers who conduct any of the specified healthcare transactions. For more information see the Code of Federal Regulations, Title 45, Parts 160, et. seq.

4.1.2 SELECTED STANDARDS

The following table provides a list of standards that are used to meet information exchange requirements of the Interoperability Specification, and the HITSP constructs that use each standard. A detailed description of each standard is also provided in the Appendix.

Note that the standards selected for this Interoperability Specification are approved for use as defined in Section 4.0 above.

Table 4.1.2-1 Selected Standards Linked to HITSP Constructs

Standard Name	HITSP Construct	Remarks/ Minor Gaps
Accredited Standards Committee (ASC) X12 270 and 271 transaction standards version 4010, using the Insurance Subcommittee (X12N) Implementation Guides Version Reference Numbers 004010X92	HITSP/T40 - Patient Health Plan Eligibility Verification	
Accredited Standards Committee (ASC) X12 270 and 271 transaction standards version 4010, using the Insurance Subcommittee (X12N) Addenda 004010X92A1	HITSP/T40 - Patient Health Plan Eligibility Verification	
Accredited Standards Committee (ASC) X12 270 Transaction Version Standards Release 004010	HITSP/T40 - Patient Health Plan Eligibility Verification	
Accredited Standards Committee (ASC) X12 271 Transaction Version Standards Release 004010	HITSP/T40 - Patient Health Plan Eligibility Verification	
Accredited Standards Committee (ASC) X12 278 transaction standard version 4010, using the Insurance Subcommittee (X12N) Implementation Guides Version Reference Numbers 004010X94	HITSP/T68 – Patient Health Plan Authorization Request and Response	
Accredited Standards Committee (ASC) X12 278 transaction standard version 4010, using the Insurance Subcommittee (X12N) Addenda 004010X94A1	HITSP/T68 – Patient Health Plan Authorization Request and Response	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Accredited Standards Committee (ASC) X12 278 Transaction Version Standards Release 004010	HITSP/T68 – Patient Health Plan Authorization Request and Response	
Accredited Standards Committee (ASC) X12 Standards Release 004010	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32 and HITSP/C84
American Medical Association (AMA) Current Procedural Terminology (CPT®) Fourth Edition (CPT-4)	HITSP/C41 – Radiology Result Message	
American Medical Association (AMA) Current Procedural Terminology (CPT®) Fourth Edition (CPT-4); CPT Evaluation and Management Codes	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48 and HITSP/C84
CDC Race and Ethnicity Code Sets	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
Council for Affordable Quality Health Care (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase I Operating Rules	HITSP/T40 - Patient Health Plan Eligibility Verification	
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #260 Eligibility Data Content Rule v2.0.0	HITSP/T40 - Patient Health Plan Eligibility Verification	
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #259 AAA Error Code Reporting Rule v2.0.0	HITSP/T40 - Patient Health Plan Eligibility Verification	
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #258 Normalizing Last Name Rule v2.0.0	HITSP/T40 - Patient Health Plan Eligibility Verification	
Council for Affordable Quality Healthcare (CAQH) Phase II Core #270 Connectivity Rule v2.0.0	HITSP/T85 – Administrative Transport to Health Plan	
Digital Imaging and Communications in Medicine (DICOM) Part 3.12: Media Formats and Physical Media for Media Interchange	HITSP/T33 – Transfer of Documents on Media	
Federal Information Processing Standards (FIPS) Codes for the Identification of the States, the District of Columbia and the Outlying Areas of the United States, and Associated Areas Publication # 5-2, May, 1987	HITSP/C41 – Radiology Result Message HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
Food and Drug Administration (FDA) - Unique Ingredient Identifier (UNII)	HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Food and Drug Administration (FDA) - National Drug Code (NDC)	HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
Health Level Seven (HL7) Common Terminology Services (CTS) Release 1	HITSP/T66 – Retrieve Value Set	
Health Level Seven (HL7) HL7 Version 3 Standard: Clinical Document Architecture (CDA), Release 2	HITSP/C37 – Lab Report Document HITSP/C48 – Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/C84 – Consult and History & Physical Note HITSP/C78 – Immunization Document	
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 Personal Health Monitoring Report (PHMR) DSTU Release 1, July 2008 Ballot	HITSP/C74 – Remote Monitoring Observation Document	
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 History and Physical (H&P) Notes	HITSP/C84 – Consult and History & Physical Note	
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 Consultation Note	HITSP/C84 – Consult and History & Physical Note	
Health Level Seven (HL7) Implementation Guide: CDA Release 2.0 – Continuity of Care Document (CCD), April 01, 2007	HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD)	
Health Level Seven (HL7) Standard Code Set CVX - Vaccines Administered	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32 and HITSP/C78
Health Level Seven (HL7) Standard Code Set MVX - Manufacturers of Vaccines	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32 and HITSP/C78
Health Level Seven (HL7) U.S. Realm - Interoperability Specification: Lab Result Message to EHR (ORU^R01) (HL7 Version 2.5.1) September, 2007	HITSP/C36 – Lab Result Message	
Health Level Seven (HL7) V3 RBAC, R1-2008, HL7 Version 3 Standard: Role Based Access Control (RBAC) Healthcare Permissions Catalog, Release 1, February 2008	HITSP/TP20 – Access Control	
Health Level Seven (HL7) Version 2.3.1 Chapter 2 – Control, Chapter 3 – Patient Administration	HITSP/TP22 – Patient ID Cross-Referencing	
Health Level Seven (HL7) Version 2.5	HITSP/C41 – Radiology Result Message	
Health Level Seven (HL7) Version 2.5, Chapter 2 – Control, Chapter 3 – Patient Administration, Chapter 5 – Query	HITSP/TP22 - Patient ID Cross-Referencing HITSP/T23 - Patient Demographics Query	
Health Level Seven (HL7) Version 2.5.1	HITSP/C35 – Lab Result Terminology HITSP/C36 – Lab Result Message HITSP/T14 – Send Laboratory Result Message	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Health Level Seven (HL7) Version 3.0 – Vocabularies and Value Sets	HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
Health Level Seven (HL7) Version 3.0 Privacy Consent related specifications RCMR_RM010001 - Data Consent	HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) Exchange of Personal Health Record Content (XPHR)	HITSP/C32 – Summary Documents Using HL7 Continuity of Care Document (CCD)	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Volume 2 Supplement 2007 – 2008 Cross-Enterprise User Assertion (XUA)	HITSP/C19 – Entity Identity Assertion	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 3.0	HITSP/C41 – Radiology Result Message	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) – Revision 5.0 or later, Cross Enterprise Sharing of Scanned Documents (XDS-SD) Integration Profile	HITSP/C62 – Unstructured Document	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (TF) Revision 4.0 or later, – Audit Trail and Node Authentication (ATNA) Integration Profile	HITSP/T15 – Collect and Communicate Security Audit Trail	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 5.0, Audit Trail and Node Authentication (ATNA) Integration Profile, Section 9.1 Authentication	HITSP/T17 – Secured Communication Channel	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Consistent Time (CT) Integration Profile	HITSP/T16 – Consistent Time	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 5.0 or later, Patient Demographics Query (PDQ) Integration Profile	HITSP/T23 – Patient Demographics Query	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Volume 2 Supplement 2007 – 2008 Cross-Enterprise User Assertion (XUA) Integration Profile	HITSP/C19 - Entity Identity Assertion	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework Supplement 2008 - 2009, Pediatric Demographics, Draft for Trial Implementation (August 22, 2008)	HITSP/T23 – Patient Demographics Query HITSP/TP22 – Patient ID Cross-Referencing	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework, Revision 4, Personnel White Pages profile	HITSP/T64 - Identify Communication Recipients	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (TF) Supplement 2007 – 2008, Notification of Document Availability (NAV) Integration Profile, Draft for Trial Implementation, October 10, 2008	HITSP/T29 – Notification of Document Availability	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) 2007-2008 Trial Implementation Supplement Cross-enterprise Document Reliable Interchange (XDR) Release 3	HITSP/T31 – Document Reliable Interchange	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Cross-Enterprise Document Media Interchange (XDM) Integration Profile	HITSP/T33 – Transfer of Documents on Media	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework Supplement 2008-2009 Document-based Referral Request (DRR) Integration Profile	HITSP/T67 - Clinical Referral Request Transport	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0, Section 10 Cross-Enterprise Document Sharing (XDS.a) Integration Profile	HITSP/TP13 – Manage Sharing of Documents HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 - Registry Stored Query Transaction for XDS Profile Supplement [ITI-18]	HITSP/TP13 – Manage Sharing of Documents HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008-2009, Cross-Community Access (XCA), Trial Implementation, October 10, 2008	HITSP/TP13 – Manage Sharing of Documents	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 XCA Supplement	HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Volume 2 Supplement 2007 – 2008 Cross-Enterprise Document Sharing-B (XDS.b) Integration Profile	HITSP/TP13 – Manage Sharing of Documents HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Patient Identifier Cross-Referencing Integration Profile (PIX)	HITSP/TP22 – Patient ID Cross-Referencing	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2007 - 2008 Basic Patient Privacy Consents (BPPC) – Trial Implementation	HITSP/TP30 – Manage Consent Directives	
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008-2009 Sharing Value Sets (SVS) Integration Profile	HITSP/T66 – Retrieve Value Set	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Integrating the Healthcare Enterprise (IHE) Laboratory Technical Framework Volume 3 (LAB TF-3) Document-based Transactions, Revision 2.0 - For Trial Implementation, August 16, 2007	HITSP/C37 – Lab Report Document	
Integrating the Healthcare Enterprise (IHE) Patient Care Coordination (PCC) Technical Framework Supplement 2008-2009, Immunization Content (IC), Trial Implementation Version 1.0	HITSP/C78 - Immunization Content Component	
Integrating the Healthcare Enterprise (IHE) Patient Care Coordination (PCC), Revision 4.0, 2008 - 2009, Cross-Enterprise Sharing of Medical Summaries (XDS-MS) Integration Profile	HITSP/C48 – Encounter Document Using IHE Medical Summary (XDS-MS)	
Integrating the Healthcare Enterprise (IHE) Radiology Technical Framework Revision 8.0	HITSP/TP89 - Sharing Imaging Results	
International Classification of Diseases, 9th Revision, Clinical Modifications (ICD-9-CM)	HITSP/C41 – Radiology Result Message	
International Classification of Functioning, Disability and Health (ICF)	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
International Health Terminology Standards Development Organisation (IHTSDO) Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®)	HITSP/C35 – Lab Result Terminology HITSP/C36 – Lab Result Message HITSP/C41 – Radiology Result Message HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
International Organization for Standardization (ISO) Health informatics - 9660 Level 1	HITSP/T33 – Transfer of Documents on Media	
International Organization for Standardization (ISO) ISO 3166-1	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
International Organization for Standardization (ISO) PDF/A ISO 19005-1b. Document management - Electronic document file format for long-term preservation - Part 1: Use of PDF (PDF/A)	HITSP/C62 – Unstructured Document	
International Organization for Standardization (ISO)/Institute of Electrical and Electronics Engineers (IEEE) 11073-10101 Health informatics Point-of-care medical device communication Part 10101: Nomenclature	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C74
Internet Engineering Task Force (IETF) Network Time Protocol (Version 3) Specification, Implementation and Analysis, "Request for Comment" (RFC) # 1305, March, 1992	HITSP/T16 – Consistent Time	
Internet Engineering Task Force (IETF) Simple Network Time Protocol (SNTP) Version 4, "Request for Comment" (RFC) # 2030, October, 1996	HITSP/T16 – Consistent Time	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
Internet Engineering Task Force (IETF) Tags for Identifying Languages, "Request for Comment" (RFC) # 4646, September, 2006	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
Logical Observation Identifiers Names and Codes (LOINC®)	HITSP/C35 – Lab Result Terminology HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
National Cancer Institute (NCI) Thesaurus	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
National Council for Prescription Drug Programs (NCPD) Telecommunication Standard Implementation Guide Version 5.1	HITSP/T79 – Pharmacy to Health Plan Authorization Request and Response	
National Library of Medicine (NLM) Unified Medical Language System (UMLS) RxNorm	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
National Uniform Billing Committee (NUBC) Uniform Bill Version 2007 (UB-04) Current UB Data Specification Manual Field 22, Patient Discharge Status, Codes	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32 and HITSP/C48
Organization for the Advancement of Structured Information Standards (OASIS) Security Assertion Markup Language (SAML) Core v2.0 OASIS Standard; ITU-T X.1141	HITSP/TP20 – Access Control	
Organization for the Advancement of Structured Information Standards (OASIS) WS-Trust Version 1.3, March 2007	HITSP/TP20 – Access Control	
Organization for the Advancement of Structured Information Standards (OASIS) eXtensible Access Control Markup Language (XACML), ITU-T Recommendation X.1142, February 2005	HITSP/TP20 – Access Control	
Unified Code for Units of Measure (UCUM)	HITSP/C35 – Lab Result Terminology HITSP/C80 - Clinical Document and Message Terminology	HITSP/C80 Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
United States Postal Service (USPS) – Postal Codes	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84
USB Removable Device Type 2.0 (USB Implementers Forum)	HITSP/T33 – Transfer of Documents on Media	



Standard Name	HITSP Construct	Remarks/ Minor Gaps
VHA National Drug File Reference Terminology (NDF-RT) Formulary	HITSP/C80 - Clinical Document and Message Terminology	Vocabularies are enabled via HITSP/C32, HITSP/C48, HITSP/C74, HITSP/C78 and HITSP/C84

4.1.3 INFORMATIVE REFERENCE STANDARDS

The following table lists standards that provide additional background information or guidance; however, they are not required for the implementation of the Interoperability Specification.

Table 4.1.3-1 Informative Reference Standards

Standard Name	Description
American National Standards Institute (ANSI) International Committee for Information Technology Standards (INCITS), #359-2004	This standard describes RBAC features that have achieved acceptance in the commercial marketplace. It includes a reference model and functional specifications for the RBAC features defined in the reference model. It is intended for (1) software engineers and product development managers who design products incorporating access control features; and (2) managers and procurement officials who seek to acquire computer security products with features that provide access control capabilities in accordance with commonly known and understood terminology and functional. For more information visit www.ansi.org .
ASTM International Standard Guide for Privilege Management Infrastructure (PMI) Guidelines: #E2595-07	<p>Defines interoperable mechanisms to manage privileges in a distributed environment. This standard is oriented towards support of a distributed or service-oriented architecture (SOA) where security services are themselves distributed and applications are consumers of distributed services. This standard incorporates privilege management mechanisms alluded to in a number of existing standards (e.g., E1986, E2084). The privilege mechanisms in this standard support policy-based access control (including role, entity and contextual-based access control) including the application of policy constraints, patient requested restrictions and delegation. Finally, the standard supports hierarchical, enterprise-wide privilege management.</p> <p>The mechanisms defined in this standard may be used to support a privilege management infrastructure (PMI) using existing public key infrastructure (PKI) technology. This standard does not specifically support mechanisms based on secret-key cryptography. Mechanisms involving privilege credentials are specified in International Organization for Standardization (ISO) 9594-8:2000 (attribute certificates), and Organization for the Advancement of Structured Information Standards (OASIS) Security Assertion Markup Language (SAML) (attribute assertions); however, this standard does not mandate or assume the use of such standards.</p> <p>Many current systems require only local privilege management functionality (on a single computer system). Such systems frequently use proprietary mechanisms. This standard does not address this type of functionality; rather, it addresses an environment where privileges and capabilities (authorizations) must be managed between computer systems across the enterprise, and with business partners. For more information visit www.astm.org.</p>
ASTM International Standard Specification for Audit and Disclosure Logs for Use in Health Information Systems: # E2147-01	E2147-01 "is for the development and implementation of security audit/disclosure logs for health information. It specifies how to design an access audit log to record all access to patient identifiable information maintained in computer systems and includes principles for developing policies, procedures, and functions of health information logs to document all disclosure of health information to external users for use in manual and computer systems. The process of information disclosure and auditing should conform, where relevant, with the Privacy Act of 1974 (1)." For more information visit www.astm.org .



Standard Name	Description
Council for Affordable Quality Healthcare (CAQH) Phase I CORE #153 Connectivity Rule	Base standard for CAQH Phase II CORE #270 Connectivity Rule.
Health Level Seven (HL7) Consent related vocabulary including Confidentiality Codes	HL7 concept domains, including ConfidentialityCodes, ActInformationCategoryCode, ActInformationAccessType, ActInformationAccessContextCode, AuthorizedParticipationFunctionCode, ActPolicyType, ActConsentType, and ActMaskableCode. For more information visit www.hl7.org .
Health Level Seven (HL7) Minimal Lower Layer Protocol (MLLP) Release 2	This document specifies Release 2 of the Minimal Lower Layer Message Transport protocol (MLLP, a.k.a. MLP). The goal of the MLLP Message Transport protocol is to provide an interface between HL7 Applications and the transport protocol that uses minimal overhead. MLLP is based on a minimalistic OSI-session layer framing protocol. It is assumed that MLLP will be used only in a network environment. For more information visit www.hl7.org .
Health Level Seven (HL7) V3 RBAC, R1-2008, HL7 Version 3 Standard: Role Based Access Control (RBAC) Healthcare Permissions Catalog, Release 1, February 2008	The Healthcare Permission Catalog provides the necessary content for creating interoperable roles facilitating inter-organizational communications and information sharing among healthcare organizations and their business partners. For more information visit www.hl7.org .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The current version of the ITI-TF, rev. 4.0 for Final Text, specifies the IHE transactions defined and implemented as of August 22, 2007. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0, Volume 2 Transactions, Appendix C	Section 2.1 of Appendix C in the IHE IT Infrastructure Technical provides network guidelines for the network communications protocol for the HL7 message. For more information visit www.ihe.net .
International Classification of Diseases, 10th Revision, Procedure Coding System (ICD-10-PCS)	The International Classification of Diseases, 10th Revision, Procedure Coding System (ICD-10-PCS), describes the classification of inpatient procedures for statistical purposes and for the indexing of healthcare records by procedures. ICD-10-PCS is a procedural coding system managed by the Centers for Medicare and Medicaid Services (CMS). For more information visit www.cms.hhs.gov . Note: While ICD-10 is not deployed in US installations, we recognize the need to move toward new releases of coded values.
International Classification of Diseases, 10th Revision, Related Health Problems (ICD-10-CM)	The International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM), describes the classification of morbidity information for statistical purposes and for the indexing of healthcare records by diseases. The National Center for Health Statistics (NCHS), the Federal agency responsible for use of the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) in the United States, developed a clinical modification of the classification for morbidity purposes. For more information visit www.cdc.gov/nchs . Note: While ICD-10 is not deployed in US installations, we recognize the need to move toward new releases of coded values.
International Organization for Standardization (ISO) Health Informatics -- Information technology -- Open Systems Interconnection -- Systems Management: Security alarm reporting function, Technical Specification #10164-- Part 7: Security Alarm Reporting Function, 1992	Establishes user requirements for the service definition needed to support the security alarm reporting function, defines the service provided by the security alarm reporting function, specifies the protocol that is necessary in order to provide the service, defines the relationship between the service and management notifications, defines relationships with other systems management functions, specifies conformance requirements. The security alarm reporting function is a systems management function which may be used by an application process in a centralized or decentralized management environment to exchange information for the purpose of systems management. For more information visit www.iso.org .



Standard Name	Description
International Organization for Standardization (ISO) Health Informatics -- Privilege management and access control (PMAC), Technical Specification #22600 -- Part 1: Overview and policy management, July 2006	Supports the needs of healthcare information sharing across unaffiliated providers of healthcare, healthcare organizations, health insurance companies, their patients, staff members and trading partners. It is also intended to support inquiries from both individuals and application systems. For more information visit www.iso.org .
International Organization for Standardization (ISO) Health Informatics – Functional and Structural Roles (ISO SF Roles), Technical Specification #21298 , Draft May, 2007	<p>This document contains a specification for encoding information related to roles for health professionals and consumers. At least four areas have been identified where a model for encoding role information is needed:</p> <ol style="list-style-type: none"> 1. Privilege management and access control: role-based access control is not possible without an effective means of recording role information for healthcare actors 2. Directory services: structural roles are usefully recorded within directories of health care providers (see for example, ISO TS 21091 Health Informatics – Directory services for security, communications, and identification of professionals and patients) 3. Audit trails: functional roles are usefully recorded within audit trails for health information applications 4. Public key infrastructure (PKI): The three part ISO standard 17090 Health Informatics – Public Key Infrastructure (PKI) allows for the encoding of healthcare roles in certificate extensions, but no structured vocabulary for such roles is specified. This technical specification identifies such a coded vocabulary <p>For more information visit www.iso.org.</p>
Internet Engineering Task Force (IETF) Tags for the Identification of Languages, "Request for Comment" (RFC) #3066, January, 2001	Describes a language tag for use in cases where it is desired to indicate the language used in an information object, how to register values for use in this language tag, and a construct for matching such language tags. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF) The application/pdf Media Type (RFC 3778)	PDF, the 'Portable Document Format', is a general document representation language that has been in use for document exchange on the Internet since 1993. This document provides an overview of the PDF format, explains the mechanisms for digital signatures and encryption within PDF files, and updates the media type registration of 'application/pdf'. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF), HTTP HyperText Transfer Protocol HTTP/1.1 (RFC 2616)	The Hypertext Transfer Protocol (HTTP) is an application-level protocol for distributed, collaborative, hypermedia information systems. It is a generic, stateless, protocol, which can be used for many tasks beyond its use for hypertext, such as name servers and distributed object management systems, through extension of its request methods, error codes and headers [47]. A feature of HTTP is the typing and negotiation of data representation, allowing systems to be built independently of the data being transferred. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF), MIME Multipurpose Internet Message Extensions (RFC 2045 to RFC 2049)	The first and second documents in this set define MIME header fields and the initial set of MIME media types. The third document describes extensions to RFC 822 formats to allow for character sets other than US-ASCII. The fourth document describes what portions of MIME must be supported by a conformant MIME implementation. It also describes various pitfalls of contemporary messaging systems as well as the canonical encoding model MIME is based on. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF), SMTP Simple Mail Transfer Protocol (RFC 2821)	The objective of the Simple Mail Transfer Protocol (SMTP) is to transfer mail reliably and efficiently. SMTP is independent of the particular transmission subsystem and requires only a reliable ordered data stream channel. While this document specifically discusses transport over TCP, other transports are possible. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF), The MIME Multipart/Related Content-type (RFC 2387)	The Multipart/Related content-type provides a common mechanism for representing objects that are aggregates of related MIME body parts. This document defines the Multipart/Related content-type and provides examples of its use. For more information visit www.ietf.org .



Standard Name	Description
Internet Engineering Task Force (IETF), Transmission Control Protocol (TCP), DARPA Internet Program Protocol Specification (RFC 793)	The Transmission Control Protocol (TCP) is intended for use as a highly reliable host-to-host protocol between hosts in packet-switched computer communication networks, and in interconnected systems of such networks. This document describes the functions to be performed by the Transmission Control Protocol, the program that implements it and its interface to programs or users that require its services. For more information visit www.ietf.org .
National Council for Prescription Drug Programs (NCPDP) Telecommunication Standard Implementation Guide Version 5.1	Provides prescription claim transactions between Providers and Adjudicators, and between Adjudicators (aka Payer-to-Payer). The Telecommunication Standard Implementation Guide supports the following processes: <ol style="list-style-type: none"> 1. Eligibility Verification 2. Claim 3. Service 4. Information Reporting 5. Prior Authorization 6. Predetermination of Benefits For more information visit www.ncdp.org . Version 5.1 of this document was named in the Health Insurance Portability and Accountability Act (HIPAA) of 1996. It should be noted that the industry has requested Version D.0 for use in the next round of HIPAA
Organization for the Advancement of Structured Information Standards (OASIS) Web Services Security SOAP Message Security Version 1.0	Describes enhancements to SOAP messaging to provide message integrity and confidentiality. The specified mechanisms can be used to accommodate a wide variety of security models and encryption technologies. This specification also provides a general-purpose mechanism for associating security tokens with message content. No specific type of security token is required, the specification is designed to be extensible (i.e., support multiple security token formats. Additionally, this specification describes how to encode binary security tokens, a framework for XML-based tokens, and how to include opaque encrypted keys. It also includes extensibility mechanisms that can be used to further describe the characteristics of the tokens that are included with a message. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) Simple Object Access Protocol (SOAP) Version 1.1	SOAP is a protocol specification for invoking methods on servers, services, components and objects. SOAP codifies the existing practice of using XML and HTTP as a method invocation mechanism. The SOAP specification mandates a small number of HTTP headers that facilitate firewall/proxy filtering plus an XML vocabulary that is used for representing method parameters, return values, and exceptions." {DevelopMentor} SOAP consists of three parts: an envelope that defines a framework for describing what is in a message and how to process it, a set of encoding rules for expressing instances of application-defined data types, and a convention for representing remote procedure calls and responses. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) - ebRIM OASIS – ebXML Registry Information Model v2.1	The Registry Information Model provides a blueprint or high-level schema for the ebXML Registry. Its primary value is for implementers of ebXML Registries. It provides these implementers with information on the type of metadata that is stored in the Registry as well as the relationships among metadata Classes. The Registry information model: a) Defines what types of objects are stored in the Registry; b) Defines how stored objects are organized in the Registry. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) - ebMS OASIS/ebXML Messaging Services Specifications v2.1	Defines a Message Service protocol for reliable Business-to-Business data interchange. ebMS v2.1 adds quality of service features on top of transfer protocols such as HTTP and SMTP. Key qualities of service features include guaranteed delivery and nonrepudiation of receipt. ebMS v2.1 can reliably transfer any data type including XML, X12, EDIFACT, or binary data between two parties over the Internet. For more information visit www.oasis-open.org .



Standard Name	Description
Organization for the Advancement of Structured Information Standards (OASIS) -ebRS OASIS – ebXML Registry Services Specifications v2.1	The ebXML Registry provides a set of services that enable sharing of information between interested parties for the purpose of enabling business process integration between such parties based on the ebXML specifications. The shared information is maintained as objects in a repository and managed by the ebXML Registry Services defined in this document. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) – ebXML Registry Information Model (3.0)	The Registry Information Model provides a blueprint or high-level schema for the ebXML Registry. Its primary value is for implementers of ebXML Registries. It provides these implementers with information on the type of metadata that is stored in the Registry as well as the relationships among metadata Classes. The Registry information model: a) Defines what types of objects are stored in the Registry; b) Defines how stored objects are organized in the Registry. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) – ebXML Registry Services Specification (3.0)	The ebXML Registry provides a set of services that enable sharing of information between interested parties for the purpose of enabling business process integration between such parties based on the ebXML specifications. The shared information is maintained as objects in a repository and managed by the ebXML Registry Services defined in this document. For more information visit www.oasis-open.org .

4.2 GAPS WHERE THERE ARE NO STANDARDS

This section describes gaps in standards. Gaps occur in the following two cases, where HITSP has:

- Identified requirements derived from the context that have no standards that meet all tiers of HITSP criteria to merit selection for that context
- Identified a single standard that encompasses and singly fulfills a set of tightly-coupled standards from the given context, yet is lacking in fulfilling one or more of the tightly-coupled requirements

The gap is only relative to the specific Use Case requirement. Recommended resolutions were developed through a series of steps including the Technical Committee's initial recommendations, cross Technical Committee validation of the gap, provisional recommendations and peer review by the Technical Committee.

The table below identifies the Use Case requirements and known associated gaps, along with the recommended resolutions.

Table 4.2-1 Use Case Requirements and Associated Standards Gaps

Requirement Number	Summary Description	Identified Gaps	Recommended Resolution
DR2 , DR60	Sending relevant data to consulting clinician	HITSP does not have a defined construct for all types of data (e.g., EKG) that might need to be sent to a consulting clinician	To be determined
DR2 DR9	Patient Clinical Summary Patient Encounter/Discharge Summary	Not all medication actions can be communicated using the medication module in HITSP/C83 - CDA Content Modules, specifically medications stopped, modified, or put on hold by the consulting clinician	There is a need for an implementation guide on how C83 can be used to relay medication information in a consult request



Requirement Number	Summary Description	Identified Gaps	Recommended Resolution
DR60	Functional status and assessments that include functional status	There is a need for a CDA implementation guide for the exchange of assessment instruments that include functional status	HITSP will send a request to SDOs
IER 28 , IER62 , IER17	Nursing documentation, such as nurse's notes	Gap in the standard	HITSP will send a request to SDOs to create an implementation guide to fill this gap, including: Nursing Summary Component Document that contains notes and observations from the nursing staff Content Creator Content Consumer And to make sure that CDA will work for all nursing documentation
IER25	Send/Receive decision support data	HITSP has not currently defined decision support software interoperability	HITSP Cross-TC work is required
IER 11	Identify patient's provider preference	There is no specification for interacting with a provider registry currently available in the United States that could provide functionality for a patient to select a provider by preference	HITSP Cross-TC work is required
IER 57	Identify/Select a consulting clinician or next setting of care, based on capability and health plan association	Gap in the standard for identifying provider and/or facility that meets preferences (specialty, insurance network, location, etc)	HITSP Cross-TC work is required
IER43	Send/Receive accept patient	There is currently no way defined to send an acknowledgement that the facility can accept the patient	HITSP Cross-TC work is required

4.3 STANDARD OVERLAPS

This section describes the instances where there are overlaps among standards for the Use Case requirements. The overlap is only relative to the specific Use Case requirement. Overlaps refer to instances wherein some of the requirements are met by multiple standards. Recommended resolutions were developed through a series of steps including the Technical Committee's initial recommendations, cross HITSP Technical Committee validation of the overlap, provisional recommendations and peer review by the Technical Committee's.

The table below presents the identified overlaps and the respective resolution plans.

Table 4.3-1 Use Case Requirements and Associated Standard Overlaps

Requirement Number	Summary Description	Standard Overlap	Recommended Resolution
No applicable overlaps			



5.0 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.

5.1 CONFORMANCE CRITERIA

In order to claim conformance to the specification, an implementation must satisfy all the requirements and mandatory statements listed in the HITSP Interoperability Specification, its associated construct specifications, as well as conformance criteria from the selected base and composite standards. A conformant system must be constrained as specified in Table 3.1.2-1, and implement all of the required actors from Table 3.2.3-1, within the scope, subset or implementation option that is selected from Section 5.2 below.

Claims of conformance to this specification must be made using the following language:
This product conforms to the HITSP Consultations and Transfers of Care Interoperability Specification, available at www.hitsp.org Web Site.

5.2 CONFORMANCE SCOPING, SUBSETTING AND OPTIONS

A HITSP Interoperability Specification can be implemented for individual business actors defined in the Interoperability Specification. An implementation claiming conformance to a specific business actor from the Interoperability Specification shall support all of the requirements associated to that business actor as described in Table 3.2.3-1.

This means that **for each implemented business actor**:

1. All Required or Conditionally Required technical actors listed for the business actor shall be supported as specified in the associated construct
2. Optional technical actors listed for the business actor may be supported as specified in the associated construct
3. All Required or Conditionally Required transactions and content subsets listed for each implemented technical actor assigned to the business actor shall be supported as specified in the associated construct
4. Optional transactions and content subsets listed for each implemented technical actor assigned to the business actor may be supported as specified in the associated construct

Implementers of this Interoperability Specification who follow the principles listed above are being provided a level of implementation flexibility, while maintaining interoperability.



5.3 TEST METHODS

HITSP relies on the conformance test methods, test tools and other test-related material produced by, or under the auspices, of standards developers, profiling organizations and implementation guide producers as part of its collaborative implementation testing effort. Efforts to produce conformance test methods, tools, etc. may be internal to the organization, or provided by an external organization.

A Health Information Technology (HIT) Implementation Testing website has been developed in collaboration with HITSP, the National Institute of Standards and Technology (NIST), the Certification Commission for Healthcare Information Technology (CCHIT), and the Office of the National Coordinator (ONC) to advance conformance and interoperability testing capabilities. This website provides HIT implementers with the necessary resources to support and test their implementation of standards-based health systems. For more information, visit NIST at www.nist.gov.



6.0 APPENDIX

The following sections include relevant materials referenced throughout this document.

6.1 DESCRIPTION OF STANDARDS

The following table contains descriptions of the selected standards from Section 4.1.2:

Table 6.1-1 Description of Standards

Standard Name	Description
Accredited Standards Committee (ASC) X12 270 and 271 transaction standards version 4010, using the Insurance Subcommittee (X12N) Implementation Guides Version Reference Numbers 004010X92	Detailed Implementation Guides based on release 004010 of the X12 standards. These Implementation Guides provide details on the use of X12 standards to accomplish specific transaction functions. Some of the version 004010 Implementation Guides, but not all, have been adopted as Implementation Specifications under HIPAA. Implementation Guides are published by Washington Publishing Company. For more information visit www.wpc-edi.com .
Accredited Standards Committee (ASC) X12 270 and 271 Transaction Standards Version 4010, using the Insurance Subcommittee (X12N) Addenda 004010X92A1	Many of the version X12N 004010 Implementation Guides, including all of those adopted under HIPAA, have Addenda that contain updates -- only -- to the original Implementation Guides. These Addenda are identified as version 004010A1. Implementation Guide 004010X092A1 describes transactions for Health Care Eligibility Benefit Inquiry and Response. Implementation Guides are published by Washington Publishing Company. For more information visit www.wpc-edi.com .
Accredited Standards Committee (ASC) X12 270 Transaction Version Standards Release 004010	The objective of the Health Care Eligibility/Benefit Inquiry (270) is to provide for the exchange of eligibility inquiry to individuals within a health plan. This transaction can be used by health care providers to request coverage and payment information on the member/insured in a batch environment where real time processing is not required. This transaction is also used to provide additional patient eligibility information to support administrative reimbursement for health care products and services. This standard is required by HIPAA.
Accredited Standards Committee (ASC) X12 271 Transaction Version Standards Release 004010	The objective of the Health Care Eligibility, Coverage, or Benefit Information (271) is to provide for the response to eligibility inquiries about individuals within a health plan. This transaction can be used to receive coverage and payment information on a member/insured in a batch environment where real time processing is not required. This transaction is also used to provide additional patient eligibility information to support administrative reimbursement for health care products and services. This standard is required by HIPAA.
Accredited Standards Committee (ASC) X12 278 Transaction Version Standards Release 004010	The objective of the Health Care Service Review – Request for Review and Response (278) is to provide for the exchange of service review requests from a healthcare provider to a health plan, and a corresponding response from the health plan to that healthcare provider. This transaction can be used by health care providers to request approval and coverage information on the patient for a particular service type or service. This standard is required by HIPAA. This standard is required by regulatory guidance.



Standard Name	Description
Accredited Standards Committee (ASC) X12 278 transactions standard version 4010, using the Insurance Subcommittee (X12N) Implementation Guides Version Reference Numbers 004010X94	Detailed Implementations Guide based on release 004010 of the X12 standards. These Implementation Guides provide details on the use of X12 standards to accomplish specific transaction functions. Some of the version 004010 Implementation Guides, but not all, have been adopted as Implementation Specifications under HIPAA. This standard is required by regulatory guidance. Implementation Guides are published by Washington Publishing Company. For more information visit www.wpc-edi.com .
Accredited Standards Committee (ASC) X12 278 Transactions Standard Version 4010, using the Insurance Subcommittee (X12N) Addenda 004010X94A1	Many of the version X12N 004010 Implementation Guides, including all of those adopted under HIPAA, have Addenda that contain updates -- only -- to the original Implementation Guides. These Addenda are identified as version 004010A1. Implementation Guide 004010X0941 describes transactions for Health Care Service Review – Request for Review and Response. Implementation Guides are published by Washington Publishing Company. For more information visit www.wpc-edi.com . This standard is required by regulatory guidance.
Accredited Standards Committee (ASC) X12 Standards Release 004010	Release (version) 004010 of the Accredited Standards Committee (ASC) X12 standards including the X12.5 Interchange Control, X12.6 Application Control Structure, 270 Eligibility, Coverage or Benefit Inquiry, 271 Eligibility, Coverage or Benefit Information and other control standards for the uniform electronic interchange of business transactions. Published by the Data Interchange Standards Association (DISA). For more information visit www.x12.org .
American Medical Association (AMA) Current Procedural Terminology (CPT®) Fourth Edition (CPT-4)	A uniform coding system used primarily to identify medical services and procedures furnished by physicians and other healthcare professionals. For more information visit www.ama-assn.org .
American Medical Association (AMA) Current Procedural Terminology (CPT®) Fourth Edition (CPT-4); CPT Evaluation and Management Codes	A uniform coding system used primarily to identify medical services and procedures furnished by physicians and other healthcare professionals. For more information visit www.ama-assn.org .
CDC Race and Ethnicity Code Sets	The U.S. Centers for Disease Control and Prevention (CDC) has prepared a code set for use in coding race and ethnicity data. This code set is based on current federal standards for classifying data on race and ethnicity, specifically the minimum race and ethnicity categories defined by the U.S. Office of Management and Budget (OMB) and a more detailed set of race and ethnicity categories maintained by the U.S. Bureau of the Census (BC). The main purpose of the code set is to facilitate use of federal standards for classifying data on race and ethnicity when these data are exchanged, stored, retrieved, or analyzed in electronic form. At the same time, the code set can be applied to paper-based record systems to the extent that these systems are used to collect, maintain, and report data on race and ethnicity in accordance with current federal standards. For more information visit www.cdc.gov .
Council for Affordable Quality Health Care (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase I Operating Rules	Provide agreed-upon business rules and guidelines for using and processing eligibility inquiry and response transactions between providers and health plans; in particular those that have been adopted under HIPAA. For more information visit www.cagh.org .
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #258 Normalizing Last Name Rule v2.0.0	Provides agreed-upon business rules and guidelines for using and processing eligibility inquiry and response transactions between providers and health plans; in particular those that have been adopted under HIPAA. For more information visit www.cagh.org .



Standard Name	Description
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #259 AAA Error Code Reporting Rule v2.0.0	Provides agreed-upon business rules and guidelines for using and processing eligibility inquiry and response transactions between providers and health plans; in particular those that have been adopted under HIPAA. For more information visit www.caqh.org .
Council for Affordable Quality Healthcare (CAQH) Committee on Operating Rules for Information Exchange (CORE) Phase II #260 Eligibility Data Content Rule v2.0.0	Provides agreed-upon business rules and guidelines for using and processing eligibility inquiry and response transactions between providers and health plans; in particular those that have been adopted under HIPAA. For more information visit www.caqh.org .
Council for Affordable Quality Healthcare (CAQH) Phase II Core #270 Connectivity Rule v2.0.0	The CORE #270 Connectivity Rule v2.00 developed by CAQH/CORE Connectivity Subgroup. It includes the following: <ul style="list-style-type: none"> • Scope definition, rationale and policy guidelines • Message envelope and submitter authentication standards (payload agnostic) • Basic conformance requirements for stakeholders in terms of the chosen standards • Message envelope metadata names, syntax and semantics • Message envelope schemas and examples of use • Error handling • Glossary of terms For further information visit www.caqh.org .
Digital Imaging and Communications in Medicine (DICOM) Part 3.12: Media Formats and Physical Media for Media Interchange	This DICOM Standard describes the services and the data necessary for the interchange of information between digital imaging computer systems found in health care settings. PS 3.12 of the DICOM Standard articulates the structure between the Media Storage Model and specific media. Media physical characteristics are also covered. For more information visit medical.nema.org .
Federal Information Processing Standards (FIPS) Codes for the Identification of the States, the District of Columbia and the Outlying Areas of the United States, and Associated Areas Publication # 5-2, May, 1987	A set of two-digit numeric codes and a set of two-letter alphabetic codes for representing the 50 states, the District of Columbia and the outlying areas of the United States, and associated areas. The standard covers all land areas under the sovereignty of the United States, the freely associated states of Federated States of Micronesia and Marshall Islands, and the trust territory of Palau. For more information visit www.itl.nist.gov . NOTE: ASC X12 transactions and ASC X12N Implementation Guides do not allow use of this standard; instead they require use of the U.S. Postal Service's National Zip Code and Post Office Directory -- which provides similar alphabetic code values.
Food and Drug Administration (FDA) - Unique Ingredient Identifier (UNII)	Provides codes developed by FDA to uniquely identify all ingredients used in marketed medications in the United States. Each UNII is assigned based on molecular structure, manufacturing process, or other characteristics. UNII is part of the Federal Medication Terminologies. For more information visit www.fda.gov/oc/datacouncil/SRS.htm
Food and Drug Administration (FDA) - National Drug Code (NDC)	Provides drug codes for prescription medicine and insulin products. NDC is managed by the FDA and is part of the Federal Medication Terminologies. For more information visit www.fda.gov/cder/ndc/database/default.htm



Standard Name	Description
Health Level Seven (HL7) Common Terminology Services (CTS) Release 1	<p>The HL7 Common Terminology Services (HL7 CTS) defines an Application Programming Interface (API) that can be used when accessing terminological content. The CTS specification was developed as an alternative to a common data structure. Instead of specifying what an external terminology must look like, HL7 has chosen to identify the common functional characteristics that an external terminology must be able to provide. As an example, an HL7 compliant terminology service will need to be able to determine whether a given concept code is valid within the particular resource. Instead of describing a table keyed by the resource identifier and concept code, the CTS specification describes an Application Programming Interface (API) call that takes a resource identifier and concept code as input and returns a true/false value. Each terminology developer is free to implement this API call in whatever way is most appropriate for them.</p> <p>It describes a set of API calls that represent the core functionality that will be needed by basic HL7 Version 3 applications.</p>
Health Level Seven (HL7) HL7 Version 3 Standard: Clinical Document Architecture (CDA), Release 2	<p>The HL7 Clinical Document Architecture is an XML-based document markup standard that specifies the structure and semantics of clinical documents for the purpose of exchange. CDA is one instantiation of HL7's Version 3.0 Reference Information Model (RIM) into a specific message format. Of particular focus for HITSP Interoperability Specifications are message formats for Laboratory Results and Continuity of Care (CCD) documents. Release 2 of the HL7 Clinical Document Architecture (CDA) is an extension to the original CDA document markup standard that specifies the structure and semantics of clinical documents for the purpose of exchange. CDA R2 includes a prose document in HTML, XML schemas, data dictionary, and sample CDA documents. CDA R2 further builds upon other HL7 standards beyond just the Version 3.0 Reference Information Model (RIM) and incorporates Version 3.0 Data Structures, Vocabulary, and the XML Implementation Technology Specifications for Data Types and Structures. For more information visit www.hl7.org.</p>
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 Personal Health Monitoring Report (PHMR) DSTU Release 1, July 2008 Ballot	<p>This HL7 profile on the use of CDA R2 has been developed within the HL7 community to define an exchange document in support of the remote health monitoring Use Case. The profile is provisionally selected pending a successful balloting within the HL7 community. The PHMR is a document that carries personal healthcare monitoring data. The data is transmitted either in the form of a summary or as raw data. The summary may be a result of analysis by a disease management service provider. For more information visit www.hl7.org.</p>
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 Consultation Note	<p>The HL7 Implementation Guide for CDA Release 2.0 Consultation Note defines additional constraints on the CDA Header and Body used in a Consultation document in the U.S. realm, and provides examples of conforming fragments in the body of the document and an example of a conforming XML instance. For more information visit www.hl7.org.</p>
Health Level Seven (HL7) Implementation Guide for CDA Release 2.0 History and Physical (H&P) Notes	<p>The HL7 Implementation Guide for CDA Release 2.0 History and Physical (H&P) Notes defines additional constraints on the CDA Header and Body used in a History and Physical document in the U.S. realm, and provides examples of conforming fragments in the body of the document and an example of a conforming XML instance. For more information visit www.hl7.org.</p>



Standard Name	Description
Health Level Seven (HL7) Implementation Guide: CDA Release 2.0 – Continuity of Care Document (CCD), April 01, 2007	The Continuity of Care Document implementation guide describes constraints on the HL7 Clinical Document Architecture, Release 2.0 (CDA) specification in accordance with requirements set forward in ASTM E2369-05 Standard Specification for Continuity of Care Record (CCR). The resulting specification, known as the Continuity of Care Document (CCD), is developed as a collaborative effort between ASTM and HL7. It is intended as an alternate implementation to the one specified in ASTM ADJE2369 for those institutions or organizations committed to implementation of the HL7 Clinical Document Architecture. For more information visit www.hl7.org .
Health Level Seven (HL7) Standard Code Set CVX - Vaccines Administered	The CDC's National Center of Immunization and Respiratory Diseases (NCIRD) maintains the HL7 external code set CVX. The implementation of the HL7 standard for immunization data exchange is described in Chapter 4 of the HL7 standard. The codes in HL7 Version 2.3 table 0292, represented the initial content of the external CVX code set. Since vaccines have to be added to this table more quickly than new versions of HL7 are released, this document represents the most up-to-date version of the CVX code set. Items have been added. Others have been added for planning purposes, pending FDA approval. For more information visit http://www.cdc.gov/vaccines/programs/iis/stds/cvx.htm
Health Level Seven (HL7) Standard Code Set MVX - Manufacturers of Vaccines	The CDC's National Center for Immunization and Respiratory Diseases (NCIRD) maintains the HL7 external code set MVX. The implementation of the HL7 standard for immunization data exchange is described in Chapter 4 of the HL7 standard. The codes in HL7 Version 2.3 table 0227 represent the initial content of the external MVX code set. This document represents the most up-to-date version of the MVX code set. For more information visit http://www.cdc.gov/vaccines/programs/iis/stds/mvx.htm
Health Level Seven (HL7) U.S. Realm - Interoperability Specification: Lab Result Message to EHR (ORU^R01) (HL7 Version 2.5.1) September, 2007	This guide contains the necessary specifications for clinical laboratory results reporting to EHRs for use in the U.S. Realm. For more information visit www.hl7.org .
Health Level Seven (HL7) V3 RBAC, R1-2008, HL7 Version 3 Standard: Role Based Access Control (RBAC) Healthcare Permissions Catalog, Release 1, February 2008	The Healthcare Permission Catalog provides the necessary content for creating interoperable roles facilitating inter-organizational communications and information sharing among healthcare organizations and their business partners. For more information visit www.hl7.org .
Health Level Seven (HL7) Version 2.3.1 Chapter 2 – Control, Chapter 3 – Patient Administration	The HL7 Version 2.3.1 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables are contained in the standard. For more information visit www.hl7.org .
Health Level Seven (HL7) Version 2.5	The HL7 Version 2.5 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables (e.g., diagnosis type, gender, patient class, result status, specimen collection method, abnormal flags, observation result status codes interpretation, timestamp format) are contained in the standard. Of particular focus for HITSP Interoperability Specifications are message formats described in Chapters 2, 3, 5, and 7 including patient demographic (ADT) and lab result reporting. These are also used within composite standards from IHE for Patient Identity Cross-Referencing and Feed (PIX), Patient Demographics Query (PDQ), and Acknowledgements. For more information visit www.hl7.org .



Standard Name	Description
Health Level Seven (HL7) Version 2.5, Chapter 2 – Control, Chapter 3 – Patient Administration, Chapter 5 - Query	The HL7 Version 2.5 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables (e.g., diagnosis type, gender, patient class, result status, specimen collection method, abnormal flags, observation result status codes interpretation, timestamp format) are contained in the standard. For more information visit www.hl7.org .
Health Level Seven (HL7) Version 2.5.1	The HL7 Version 2.5.1 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables (e.g., diagnosis type, gender, patient class, result status, specimen collection method, abnormal flags, observation result status codes interpretation, timestamp format) are contained in the standard. Of particular focus for HITSP Interoperability Specifications are message formats described in Chapters 2, 3, 4, 5, and 7 including patient demographic (ADT), and lab result reporting. These are also used within composite standards from IHE for Patient Identity Cross-Referencing and Feed (PIX), Patient Demographics Query (PDQ) and Acknowledgements. They are also used in HL7 order messages. For more information visit www.hl7.org .
Health Level Seven (HL7) Version 3.0 – Vocabularies and Value Sets	The HL7 Version 3.0 Messaging Standard is an application protocol for electronic data exchange in healthcare. Version 3.0 is based on a Reference Information Model (RIM) which is used to instantiate various message formats. Value sets/code tables are contained in the standard. For more information visit www.hl7.org .
Health Level Seven (HL7) Version 3.0 Privacy Consent related specifications RCMR_RM010001 - Data Consent	The Data Consent RIM captures the data and associations needed to (1) record or report a consumer's consent or dissent to authorize the access, collection, use, or disclosure of personally identifiable information; (2) convey a provider's request or intent to override a patient's recorded consent or dissent; (3) convey a type of consent directive associated with a privacy policy; or (4) to record or report a consumer's consent directive, which is to be applied to future access, collection, use or disclosure of personally identifiable information. For more information visit www.hl7.org .
Integrating the Healthcare Enterprise (IHE) Exchange of Personal Health Record Content (XPHR) Integration Profile	The Exchange of Personal Health Record Content (XPHR) integration profile describes the content and format of summary information extracted from a PHR system used by a patient for import into healthcare provider information systems, and visa versa. The purpose of this profile is to support interoperability between PHR systems used by patients and the information systems used by healthcare providers. This profile does not address all the data exchange requirements of PHR systems. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Volume 2 Supplement 2007 – 2008 Cross-Enterprise User Assertion (XUA) Integration Profile	The Cross-Enterprise User Assertion Integration Profile (XUA) provides a means to communicate claims about the user identity of an authenticated principal (user, application, system...) in transactions that cross enterprise boundaries. To provide accountability in these cross enterprise transactions there is a need to identify the requesting user in a way that the receiver can make access decisions and proper audit entries. The XUA Profile supports enterprises that have chosen to have their own user directory with their own unique method of authenticating the entities, and others that may have chosen to use a third party to perform the authentication. For more information visit www.ihe.net .



Standard Name	Description
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 3.0	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The current version of the ITI-TF, rev.3.0 for Final Text, specifies the IHE transactions defined and implemented as of December 9, 2006. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) –Revision 5.0 or later, Cross Enterprise Sharing of Scanned Documents (XDS-SD) Integration Profile	This profile defines how to store healthcare metadata in clinical documents, including patient identifiers, demographics, encounter, order or service information, represented within a structured HL7 CDA R2 header, with a PDF or plaintext formatted document containing clinical information. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Audit Trail and Node Authentication (ATNA) Integration Profile	The Audit Trail and Node Authentication (ATNA) Integration Profile establishes the characteristics of a Basic Secure Node. It describes the security environment (user identification, authentication, authorization, access control, etc.) assumed for the node so that security reviewers may decide whether this matches their environments. It defines basic auditing requirements for the node. It defines basic security requirements for the communications of the node using TLS or equivalent functionality. It establishes the characteristics of the communication of audit messages between the Basic Secure Nodes and Audit Repository nodes that collect audit information. This integration profile has been designed so that specific domain frameworks may extend it through an option defined in the domain specific technical framework. Extensions are used to define additional audit event reporting requirements, especially actor specific requirements. The latest version of the IHE Technical Framework is available at www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Consistent Time (CT) Integration Profile	The Consistent Time (CT) Integration Profile provides a means to ensure that the system clocks and time stamps of the many computers in a network are well-synchronized. This profile specifies synchronization with a median error less than 1 second. This is sufficient for most purposes. The current version of the ITI-TF Final Text, specifies the IHE CT Integration Profile, and other transactions defined and implemented as of October 10, 2008. The latest version of the IHE Technical Framework is available at www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Audit Trail and Node Authentication (ATNA) Integration Profile, Section 9.1 Authentication	The Audit Trail and Node Authentication (ATNA) Integration Profile establishes the characteristics of a Basic Secure Node. It describes the security environment (user identification, authentication, authorization, access control, etc.) assumed for the node so that security reviewers may decide whether this matches their environments. It defines basic auditing requirements for the node. It defines basic security requirements for the communications of the node using TLS or equivalent functionality. It establishes the characteristics of the communication of audit messages between the Basic Secure Nodes and Audit Repository nodes that collect audit information. This Integration Profile has been designed so that specific domain frameworks may extend it through an option defined in the domain specific technical framework. Extensions are used to define additional audit event reporting requirements, especially actor specific requirements. The latest version of the IHE Technical Framework is available at www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 5.0 or later, Patient Demographics Query (PDQ) Integration Profile	Provides ways for multiple distributed applications to query a central patient information server for a list of patients, based on user-defined search criteria, and retrieve a patient's demographic (and, optionally, visit or visit-related) information directly into the application. For more information visit www.ihe.net .



Standard Name	Description
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008 - 2009, Pediatric Demographics, Draft for Trial Implementation (August 22, 2008)	The experience of immunization registries and other public health population databases has shown that matching and linking patient records from different sources for the same individual person in environments with large proportions of pediatric records requires additional demographic data. Pediatric Demographics makes use of the following six additional demographic fields to aid record matching in databases with many pediatric records. The latest version of the IHE Technical Framework is available at www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (TF) Supplement 2007 – 2008, Notification of Document Availability (NAV) Integration Profile, Draft for Trial Implementation, October 10, 2008	The Notification of Document Availability Integration Profile (NAV) introduces a mechanism allowing notifications to be sent point-to-point to systems within a Cross-Enterprise Document Sharing affinity domain (See IHE IT Infrastructure XDS Integration Profile), eliminating the need for manual steps or polling mechanisms for a Document Consumer to be aware that documents that may be of interest have been registered with an XDS Document Registry Actor. For more information, visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) 2007-2008 Trial Implementation Supplement Cross-enterprise Document Reliable Interchange (XDR) Release 3	This Supplement to the IHE IT Infrastructure Technical Framework provides a generic, standards based mechanism for conveying a set of medical documents in a point-to-point networked based communication. The current version of the XDR is specified in the XDR Trial Implementation Supplement to the ITI-TF, rev. 5.0, which is consistent with IHE XDS.b Supplement in term of document entry metadata. For more information visit www.ihe.net/technical_framework . NOTE: off-line mode transaction expected to be updated once standards are available for Web Services Off-line.
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 5.0 or later, Cross-Enterprise Document Media Interchange (XDM) Integration Profile	Provides document interchange using a common file and directory structure over several standard media types. This permits the patient to use physical media to carry medical documents. This also permits the use of person-to-person email to convey medical documents. XDM supports the transfer of data about multiple patients within one data exchange. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework, Revision 4.0 or later, Personnel White Pages (PWP) Integration Profile	The Personnel White Pages (PWP) Integration Profile provides access to basic directory information on human workforce members to other workforce members within the enterprise. This information has broad use among many clinical and non-clinical applications across the healthcare enterprise. This Personnel White Pages Profile specifies a method of finding directory information on the User Identities (user@realm) supplied by the Enterprise User Authentication (EUA) Integration Profile. For more information, visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008-2009 Sharing Value Sets (SVS) Integration Profile	The Sharing Value Sets (SVS) Integration Profile provides a means through which healthcare systems producing clinical or administrative data, such as diagnostic imaging equipment, laboratory reporting systems, primary care physician office EMR systems, or national healthcare record systems, can receive a common, uniform nomenclature managed centrally. Shared nomenclatures are essential to achieving semantic interoperability.
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008-2009 Document-based Referral Request (DRR) Integration Profile	The Document-based Referral Request (DRR) Integration Profile describes how to relate a referral request document with relevant clinical documents, communicate the group of documents to a referral dispatcher with an optional online transaction to trigger the referral and communicate acceptance. For more information visit www.ihe.net .



Standard Name	Description
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0, Section 10 Cross-Enterprise Document Sharing (XDS.a) Integration Profile	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. Section 10, Cross-Enterprise Document Sharing facilitates the registration, distribution and access across health enterprises of patient electronic health records. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The current version of the ITI-TF, rev. 4.0 for Final Text, specifies the IHE transactions defined and implemented as of August 22, 2007. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 - Registry Stored Query Transaction for XDS Profile Supplement [ITI-18]	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The Registry Stored Query Transaction Trial Implementation Supplement specifies an IHE transaction that provides optimization and implementation simplification. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2008-2009, Cross-Community Access (XCA), Trial Implementation, October 10, 2008	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The trial implementation version of the XCA Supplement to the ITI-Technical Framework, specifies the IHE transactions that support access between communities in a manner compatible with the XDS Integration profile. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 XCA Supplement	The IHE IT Infrastructure Technical Framework defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of health information to support optimal patient care. IHE Integration Profiles offer a common language that healthcare professionals and vendors may use in communicating requirements for the integration of products. The trial implementation version of the XCA Supplement to the ITI-TF, rev. 4.0 Final Text, specifies the IHE transactions that support access between communities in a manner compatible with the XDS Integration profile. For more information visit www.ihe.net .
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Volume 2 Supplement 2007 – 2008 Cross-Enterprise Document Sharing-B (XDS.b) Integration Profile	The Cross-Enterprise Document Sharing-B Integration Profile (XDS.b) supplement provides a new implementation choice for the Cross-Enterprise Document Sharing (XDS) Integration Profile based on use of the Web Services and ebXML Reg/Rep standards that is consistent with current developments and best practices in the industry. For more information visit www.ihe.net .



Standard Name	Description
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Revision 4.0 or later, Patient Identifier Cross-Referencing (PIX) Integration Profile	<p>The Patient Identifier Cross-referencing (PIX) Integration Profile is targeted at healthcare enterprises of a broad range of sizes (hospital, a clinic, a physician office, etc.). It supports the cross-referencing of patient identifiers from multiple Patient Identifier Domains via the following interactions: 1) The transmission of patient identity information from an identity source to the Patient Identifier Cross-reference Manager. 2) The ability to access the list(s) of cross-referenced patient identifiers either via a query/ response or via update notification.</p> <p>By specifying the above transactions among specific actors, this integration profile does not define any specific enterprise policies or cross-referencing algorithms. By encapsulating these behaviors in a single actor, this integration profile provides the necessary interoperability while maintaining the flexibility to be used with any cross-referencing policy and algorithm as deemed adequate by the enterprise. For more information visit www.ihe.net.</p>
Integrating the Healthcare Enterprise (IHE) IT Infrastructure Technical Framework (ITI-TF) Supplement 2007 - 2008 Basic Patient Privacy Consents (BPPC) Integration Profile – Trial Implementation	<p>The Basic Patient Privacy Consents (BPPC) Integration Profile provides a mechanism to record the patient privacy consent(s), a method to mark documents published to XDS with the patient privacy consent that was used to authorize the publication, and a method for XDS Consumers to use to enforce the privacy consent appropriate to the use. This profile complements XDS by describing a mechanism whereby an XDS Affinity Domain can develop and implement multiple privacy policies, and describes how that mechanism can be integrated with the access control mechanisms supported by the XDS Actors (e.g. systems). There are two key parts of the profile: 1) It provides a document content specification for capturing a patient acknowledgement of a privacy consent policy or policies. 2) It describes the method by which XD* Actors can enforce the privacy policies determined by the document confidentialityCode related to the patient privacy consents. For more information visit www.ihe.net.</p>
Integrating the Healthcare Enterprise (IHE) Laboratory Technical Framework Volume 3 (LAB TF-3) Document-based Transactions, Revision 2.0 - For Trial Implementation, August 16, 2007	<p>The IHE Laboratory Technical Framework introduces a content Integration Profile Sharing Laboratory Reports (LAB TF-3) that describes a clinical laboratory report as a human-readable electronic document. This document, which may also contain data in a machine-readable format and contains the complete set of final results produced by a clinical laboratory in fulfillment of one or more test orders for a patient. This document is focused on the sharing of sets of laboratory results in the form of a laboratory report structured document, and is not intended to address ordering or return of laboratory results to the ordering provider. For more information visit www.ihe.net.</p>
Integrating the Healthcare Enterprise (IHE) Patient Care Coordination (PCC) Technical Framework Supplement 2008-2009, Immunization Content (IC), Trial Implementation Version 1.0	<p>The IHE Patient Care Coordination Technical Framework (PCC TF) defines specific implementation (called Integration Profiles) of established standards to deal with integration issues the cross providers, patient problems or time. The Immunization Content (IC) Supplement enables sharing of a standard document to exchange immunization data. It is intended to facilitate the exchange of immunization data among multiple systems belonging to a single or to multiple organizations. For more information visit www.ihe.net.</p>
Integrating the Healthcare Enterprise (IHE) Patient Care Coordination (PCC), Revision 4.0, 2008 - 2009, Cross-Enterprise Sharing of Medical Summaries (XDS-MS) Integration Profile	<p>The IHE Patient Care Coordination Technical Framework (PCC TF) defines specific implementations (called Integration Profiles) of established standards to deal with integration issues that cross providers, patient problems or time. The Cross Enterprise Document Sharing of Medical Summaries (XDS-MS) Integration Profile enables sharing of health information between enterprises of a regional health network, and further describes how to map content in a CDA medical document into registry metadata. In the registry, healthcare providers publish pointers to documents stored in distributed repositories. Other healthcare providers may search and retrieve these and other documents. For more information visit www.ihe.net.</p>



Standard Name	Description
Integrating the Healthcare Enterprise (IHE) Radiology Technical Framework Revision 8.0	The IHE Radiology Technical Framework specifies the Cross-Enterprise Document Sharing for Imaging (XDS-I) Integration Profile which enables sharing of imaging documents such as radiology images and reports across healthcare enterprises. XDS-I extends XDS by sharing, locating and accessing DICOM instances from its original local sources, e.g. for radiologists or oncologists. For more information visit www.ihe.net .
International Classification of Diseases, 9th Revision, Clinical Modifications (ICD-9-CM)	The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM), Volumes I, II (diagnoses) and III (procedures) describes the classification of morbidity information for statistical purposes and for the indexing of healthcare records by diseases and procedures. For more information visit www.cdc.gov/nchs .
International Classification of Functioning, Disability and Health (ICF)	The International Classification of Functioning, Disability and Health, known more commonly as ICF, is a classification of health and health-related domains. These domains are classified from body, individual and societal perspectives by means of two lists: a list of body functions and structure, and a list of domains of activity and participation. Since an individual's functioning and disability occurs in a context, the ICF also includes a list of environmental factors. See www.who.int/classifications/icf/en/ .
International Health Terminology Standards Development Organisation (IHTSDO) Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®)	SNOMED CT consists of a technical design, core content architecture, and Core content. SNOMED CT Core content includes the technical specification of SNOMED CT and fully integrated multi-specialty clinical content. The Core content also includes a concepts table, description table, relationships table, history table, ICD-9-CM mapping, and Technical Reference Guide. Additionally, SNOMED CT provides a framework to manage language dialects, clinically relevant subsets, qualifiers and extensions, as well as concepts and terms unique to particular organizations or localities. For more information visit www.ihtsdo.com .
International Organization for Standardization (ISO) Health Informatics - 9660 Level 1	Defines a common logical format for files and directories so discs written to ISO 9660 specifications can be read by a wide array of computer operating systems. For more information visit www.iso.org .
International Organization for Standardization (ISO) ISO 3166-1	The International Standard for country codes. The purpose of ISO 3166 is to establish codes for the representation of names of countries, territories or areas of geographical interest, and their subdivisions. For more information visit www.iso.org .
International Organization for Standardization (ISO) PDF/A ISO 19005-1b. Document management - Electronic document file format for long-term preservation - Part 1: Use of PDF (PDF/A)	Specifies how to use the Portable Document Format (PDF) 1.4 for long-term preservation of electronic documents. It is applicable to documents containing combinations of character, raster and vector data. For more information visit www.iso.org .
International Organization for Standardization (ISO)/Institute of Electrical and Electronics Engineers (IEEE) 11073-10101 Health informatics Point-of-care medical device communication Part 10101: Nomenclature	ISO 11073-10101:2004 covers nomenclature architecture for point-of-care (POC) medical device communication (MDC). It defines the overall architecture of the organization and relationships among nomenclature components and provides specifications of semantics and syntaxes.
Internet Engineering Task Force (IETF) Network Time Protocol (Version 3) Specification, Implementation and Analysis, "Request for Comment" (RFC) #1305, March, 1992	Describes the Network Time Protocol (NTP): the mechanisms to synchronize time and coordinate time distribution in a large, diverse internet operating at rates from mundane to lightwave. For more information visit www.ietf.org .



Standard Name	Description
Internet Engineering Task Force (IETF) Simple Network Time Protocol (SNTP) Version 4, "Request for Comment" (RFC) #2030, October, 1996	Describes the Simple Network Time Protocol (SNTP) Version 4, which is an adaptation of the Network Time Protocol (NTP). SNTP can be used when the ultimate performance of the full NTP implementation is not needed or justified. When operating with current and previous NTP and SNTP versions, SNTP Version 4 involves no changes to the NTP specification or known implementations, but is rather a clarification of certain design features of NTP. For more information visit www.ietf.org .
Internet Engineering Task Force (IETF) Tags for Identifying Languages, "Request for Comment" (RFC) # 4646, September, 2006	This document describes the structure, content, construction, and semantics of language tags for use in cases where it is desirable to indicate the language used in an information object. It also describes how to register values for use in language tags and the creation of user-defined extensions for private interchange. This document, in combination with RFC 4647, replaces RFC 3066, which replaced RFC 1766. For more information visit www.ietf.org/rfc/rfc4646.txt .
Logical Observation Identifiers Names and Codes (LOINC®)	A database of universal identifiers for laboratory and other clinical observations. The laboratory portion of the LOINC database contains the usual categories of chemistry, hematology, serology, microbiology (including parasitology and virology), and toxicology, as well as categories for drugs and the cell counts typically reported on a complete blood count or a cerebrospinal fluid cell count. Antibiotic susceptibilities are a separate category. The clinical portion of the LOINC database includes entries for vital signs, hemodynamics, intake/output, EKG, obstetric ultrasound, cardiac echo, urologic imaging, gastroendoscopic procedures, pulmonary ventilator management, selected survey instruments, and other clinical observations. For more information visit www.loinc.org .
National Cancer Institute (NCI) Thesaurus	The NCI Thesaurus is a reference terminology and biomedical ontology used in a growing number of NCI and other systems. It covers vocabulary for clinical care, translational and basic research, and public information and administrative activities. The NCI Thesaurus provides definitions, synonyms, and other information on nearly 10,000 cancers and related diseases, 8,000 single agents and combination therapies, and a wide range of other topics related to cancer and biomedical research. It is part of the Federal Medication Terminologies. For more information visit www.cancer.gov .
National Council for Prescription Drug Programs (NCPDP) Telecommunication Standard Implementation Guide Version 5.1	Provides prescription claim transactions between Providers and Adjudicators, and between Adjudicators (aka Payer-to-Payer). The Telecommunication Standard Implementation Guide supports the following processes: <ol style="list-style-type: none"> 1. Eligibility Verification 2. Claim 3. Service 4. Information Reporting 5. Prior Authorization 6. Predetermination of Benefits For more information visit www.ncdp.org . Version 5.1 of this document was named in the Health Insurance Portability and Accountability Act (HIPAA) of 1996. It should be noted that the industry has requested Version D.0 for use in the next round of HIPAA.



Standard Name	Description
National Library of Medicine (NLM) Unified Medical Language System (UMLS) RxNorm	Provides standard names for (1) clinical drugs and (2) drug dose forms as administered to a patient. Also provides links from clinical drugs, both branded and generic, to their active ingredients, drug components (active ingredient + strength), and related brand names. Food and Drug Administration (FDA) National Drug Codes (NDCs) for specific drug products and many of the drug vocabularies commonly used in pharmacy management and drug interaction software are additionally linked to RxNorm. RxNorm is a part of the Federal Medication Terminologies. For more information visit www.nlm.nih.gov
National Uniform Billing Committee (NUBC) Uniform Bill Version 2007 (UB-04) Current UB Data Specification Manual Field 22, Patient Discharge Status, Codes	A code set identifying status of patient discharge on an institutional claim (e.g., inpatient, outpatient, hospice, home care). For more information visit www.nubc.org .
Organization for the Advancement of Structured Information Standards (OASIS) Security Assertion Markup Language (SAML) Core v2.0 OASIS Standard; ITU-T X.1141	SAML, developed by the Security Services Technical Committee of OASIS, is an XML-based framework for communicating user authentication, entitlement, and attribute information. As its name suggests, SAML allows business entities to make assertions regarding the identity, attributes, and entitlements of a subject (an entity that is often a human user) to other entities, such as a partner company or another enterprise application. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) WS-Trust Version 1.3, March 2007	Defines extensions that build on [WS-Security] to provide a framework for requesting and issuing security tokens, and to broker trust relationships. Defines Security Token Service (STS) model for security tokens including requesting, issuing, renewing, canceling and validating. For more information visit www.oasis-open.org .
Organization for the Advancement of Structured Information Standards (OASIS) eXtensible Access Control Markup Language (XACML), ITU-T Recommendation X.1142, February 2005	The Organization for the Advancement of Structured Information Standards (OASIS) standards group developed the eXtensible Access Control Markup Language (XACML) as a language to express and evaluate access decisions. The XACML technical specification includes a profile for RBAC using XACML that complies with the ANSI RBAC standard. The HL7 RBAC Permission Catalog provides a standard vocabulary that can be used for cross-enterprise access control. For more information visit www.oasis-open.org .
Unified Code for Units of Measure (UCUM)	A code system intended to include all units of measures being contemporarily used in international science, engineering, and business. The purpose is to facilitate unambiguous electronic communication of quantities together with their units. The focus is on electronic communication, as opposed to communication between humans. For more information visit aurora.regenstrief.org .
USB Removable Device Type 2.0 (USB Implementers Forum)	The USB-IF was formed to provide a support organization and forum for the advancement and adoption of Universal Serial Bus technology. The Forum facilitates the development of high-quality compatible USB peripherals (devices), and promotes the benefits of USB and the quality of products that have passed compliance testing. For more information visit www.usb.org .
United States Postal Service (USPS) – Postal Codes	United States Postal Service (USPS) – Postal Codes
VHA National Drug File Reference Terminology (NDF-RT) Formulary	Provides standard names for (1) mechanism of action, (2) Physiologic Effect and (3) Structural Class. NDF-RT is part of the Federal Medication Terminologies. For more information visit www.cancer.gov/cancertopics/terminologyresources/page5



6.2 USE CASE TO INFORMATION EXCHANGE AND DATA REQUIREMENTS

This section contains an extraction of business actors, required interactions and conditions/scenarios from the Use Case into a matrix/table.

Note the following:

- Actions and numbering are not intended to be sequential and can be iterative and should not be interpreted as a sequence diagram. Actions may not occur sequentially
- Note: Clinician includes long-term care providers (e.g. nursing facilities, home health agencies, assisted living facilities).

Table 6.2-1 Mapping of Use Case Actions to Information Exchange Requirements

Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
Consultations and Transfers of Care: 7.1.0.0 Requesting Clinician – Scenario 1 Consultation			
7.1.1 Evaluate patient and determine need for consult	Action: 7.1.1.1 Evaluate patient and document patient encounter	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	Action: 7.1.1.2 Determine need for consultation	None	None
7.1.2 Discuss with patient and select consulting clinician	Action: 7.1.2.1 Discuss with patient the recommendation for consultation with another provider	None	None
	Action: 7.1.2.2 Select consulting clinician	IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
		IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
		IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
7.1.3 Initiate consult request with consulting clinician	Action: 7.1.3.1 The consulting clinician is selected	None	None
	Action: 7.1.3.2 The requesting clinician documents the need for a consultation and compiles the core set of consult request data for electronic transmission to the consulting clinician	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
7.1.4 Provide access to additional clinical information	Action: 7.1.4.1 Requesting clinician sends additional relevant patient information to the consulting clinician	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
		IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	Action: 7.1.4.2 Consulting clinician sends a request for specific information	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	Action: 7.1.4.3 Requesting clinician provides access to additional information requested by the consulting clinician	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
		IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
7.1.5 Receive and review consult report NOTE: This report can be forwarded to other supporting clinicians and clinical staff	Action: 7.1.5.1 The requesting clinician receives a report from the consulting clinician upon the completion of the consult	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	Action: 7.1.5.2 The requesting clinician continues to evaluate and manage the patient	IER62 Send/Receive encounter or full episode of care record	DR2 Patient Clinical Information DR9 Consultation Completion Details
Consultations and Transfers of Care: 7.2.0.0 Consulting Clinician – Scenario 1 Consultation			
7.2.1 Receive and review request & determine ability to accept patient	Action: 7.2.1.1 Receive consult request letter and core set of patient data from requesting clinician	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	Action: 7.2.1.2 Review patient data and evaluate patient	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
		IER25 Send/Receive decision support data	GAP
		IER 37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	Action: 7.2.1.3 Support needs for payer to authorize/cover consultation as appropriate NOTE: This step includes verifying eligibility done by the consulting clinician	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
		IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
7.2.2 Request and review additional clinical information	Action: 7.2.2.1 Consulting clinician requests additional patient data	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	Action: 7.2.2.2 Receive and review additional patient information	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
7.2.3 Evaluate and manage patient	Action: 7.2.3.1 Evaluate and manage the patient for the requested scope of services	None	None
7.2.4 Complete consultation	Action: 7.2.4.1 Complete consultation and document patient encounter(s)	None	None
7.2.5 Complete and communicate consult report	Action: 7.2.5.1 Complete consultation report and communicate it to the requesting clinician, patient and other providers of care	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR9 Consultation Completion Details
		IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
Consultations and Transfers of Care: 7.3.0.0 Patient – Scenario 1 Consultation			
7.3.1 Select and coordinate with consulting clinician		None	None
7.3.2 Provide permissions for core set of data to be shared		IER1 Provide Authorization and consent	DR10 Consulting Provider Registry



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
7.3.3 Complete consultation		None	None
7.3.4 Receive consult report information	Action: 7.3.4.1 The patient receives a copy of the report from the consulting clinician upon the completion of the consultation	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	Action: 7.3.4.2 Patient continues to receive care from the selected and/or medically appropriate care provider	None	None
	Alternative Action 7.3.4.3: Following the completion of a self-initiated consultation, the patient may select a clinician to provide follow-up or continued care	None	None
Consultations and Transfers of Care: 8.1.0.0 Discharging/Transferring Setting – Scenario 2 Transfers of Care			
8.1.1 Determine need to transfer patient	Action: 8.1.1.1 Care providers perform discharge planning during the course of the patient's episode of care	None	None
	Action: 8.1.1.2 The clinician responsible for care makes the determination that the patient is ready to be transferred to another care setting	None	None
8.1.2 Select next setting of care and discuss with patient/family	Action: 8.1.2.1 Discuss the next setting of care with the patient or family	IER11 Identify provider based on patient preference	DR57 Demographic Data – Consult and Transfer DR10 Consulting Provider Registry
	Note: Patient/family discussions are purely internal without interoperability requirements, however verifying eligibility and identifying covered care settings do require interoperability	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
		IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	Action: 8.1.2.2 Support payer needs to authorize transfer of care	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	Action: 8.1.2.3 Select next setting of care and prepare for transfer coordination	None	None



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
8.1.3 Initiate plan & coordination of Discharge/Transfer	Action: 8.1.3.1 Core set of data required for coordinating the transfer process is communicated to the receiving setting	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	Action: 8.1.3.2 Receiving setting notifies the Discharging/Transferring setting that it is able to accept the patient	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	Action: 8.1.3.2a Receiving setting notifies the Discharging/Transferring setting that it is not able to accept the patient	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	Action: 8.1.3.3 Preparation for patient transfer/discharge and discharge documentation process continues	None	None
8.1.4 Discharge/Transfer patient and transmit available transfer data	Action: 8.1.4.1 Discharge patient from current setting	None NOTE: Discharge orders occur entirely within the discharging system's EHR	<u>None</u>
	Action: 8.1.4.2 Transfer information that is available for the patient at time of discharge is communicated to the receiving setting Note: Send the discharge summary plus appropriate sections of the current episode of care up to and including the entire EHR	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
		IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
8.1.5 Transmit additional relevant patient data upon completion	Action: 8.1.5.1 Patient data becomes available or is updated after the patient has left the Discharging/Transferring setting	None	None
	Action: 8.1.5.2 Communicate patient data to the receiving setting upon availability	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
8.1.6 Provide access to additional patient data	Action: 8.1.6.1 The Discharging/Transferring setting receives a request for additional patient data that is not part of the core transfer dataset	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	Action: 8.1.6.2 The Discharging/Transferring setting provides access to additional patient data in response to the request	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
Consultations and Transfers of Care: 8.2.0.0 Receiving Setting Perspective – Scenario 2 Transfers of Care			
8.2.1 Receive and review patient data & determine ability to accept patient	Action: 8.2.1.1 The receiving setting receives a request to accept a patient	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER62 Send/receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
		IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
		IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
8.2.2 Accept patient & coordinate transfer	Action: 8.2.2.1 Receiving setting notifies the Discharging/Transferring setting that it is able to accept the patient and begins the transfer coordination process	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
		IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	Action: 8.2.2.1a Receiving setting notifies the Discharging/Transferring setting that it is not able to accept the patient	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	Action: 8.2.2.2 The receiving setting prepares for patient transfer	None	None
8.2.3 Receive and review patient data & evaluate and manage patient	Action: 8.2.3.1 Receive patient data and prepare for patient arrival	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
		IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
	Action: 8.2.3.2 Review patient data and evaluate patient	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	Action: 8.2.3.3 Receive additional patient data from the Discharging/Transferring setting	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	Action: 8.2.3.4 Continue to manage patient	None	None
8.2.4 Access additional patient data	Action: 8.2.4.1 Receiving setting may request additional data that was not part of the core dataset or additional information previously transmitted by the discharging setting	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	Action: 8.2.4.2 Access additional patient data	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
		IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
8.2.5 Continue to manage patient	Action: 8.2.5.1 Continue to manage patient	None	None
Consultations and Transfers of Care: 8.3.0.0 Patient Perspective – Scenario 2 Transfers of Care			
8.3.1 Receive Discharge/Transfer data	Action: 8.3.1.1 Receive Discharge/Transfer information	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Event	Action	Information Exchange Requirement(s) (includes security requirements)	Data Requirements
	Action: 8.3.1.2 Receive additional or updated information upon availability	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary

6.3 USE CASE SEQUENCE DIAGRAMS

The Use Case sequence diagrams illustrate each Use Case scenario with a representation of a normal sequence of exchange between the primary actors. The event codes from the Use Case are annotated on the diagrams to show how the interactions relate to the Use Case. The interactions are supported by the various constructs which are introduced in Section 3.0 of this Interoperability Specification.

The High Level Sequence diagrams illustrate each Use Case scenario with a representation of a normal sequence of exchange between the primary actors. The event codes from the Use Case are annotated on the diagrams to show how the interactions relate to the Use Case. The interactions are supported by the various constructs which were introduced in Section 3.0 of this Interoperability Specification.

In the following diagrams, the business actor “External Healthcare Entities” is used to represent Diagnostic Imaging Service Providers, Geographic Health Information Exchanges/Regional Health Information Exchange Services, and Laboratories.

Figure 6.3-1 represents the Unified Modeling Language (UML) interaction diagram for the Consultation Scenario from the perspective of the Referring Clinician for Event 7.1.1. The referring clinician will evaluate the patient and request the patient's medical history from the PHR and from any other healthcare entities, including but not limited to: Hospital EHR's, Laboratories, Diagnostic Imaging Services, and RHIO's.



Figure 6.3-1 Clinician Evaluates Patient

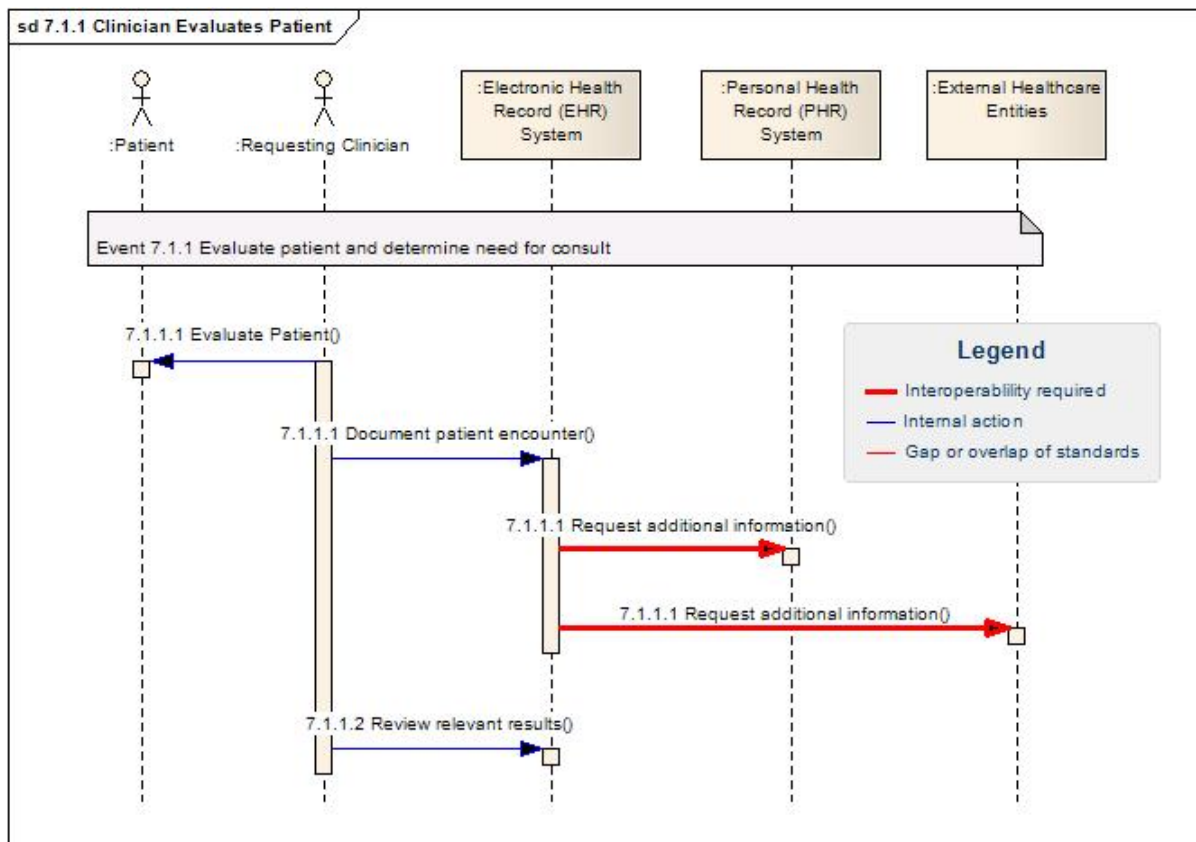


Figure 6.3-2 represents the UML interaction diagram for the Consultation Scenario from the Referring Clinician's perspective for Event 7.1.2. After evaluating the patient, the referring clinician determines the need to request a consult for the patient. The referring clinician will assist the patient in finding a consulting clinician by recommending a clinician based on the patient's insurance coverage network and/or preferences.

Figure 6.3-2 Select Consulting Physician

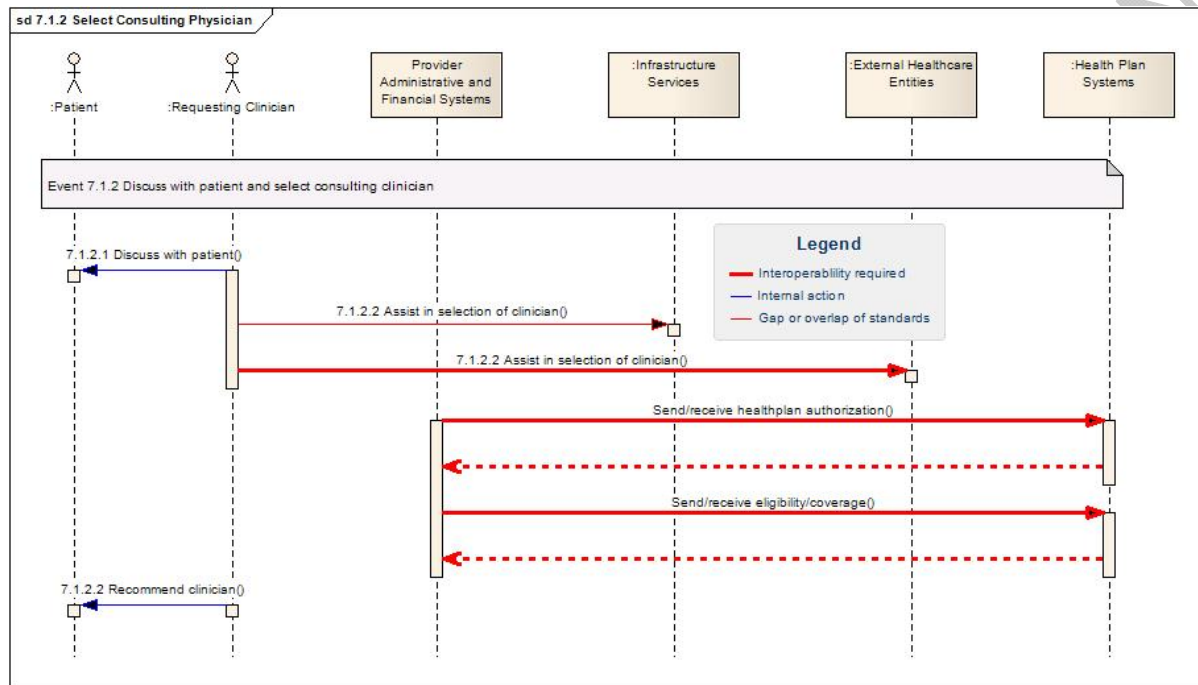


Figure 6.3-3 represents the UML interaction diagram for the Consultation Scenario from the Referring Clinician's perspective for Event 7.1.3. The referring clinician initiates a request for consult via his EHR to the selected consulting clinician's EHR. NOTE: EHR – Referring Clinician business actor would be the EHR of the Long Term Care facility if the facility requests the consultation.

Figure 6.3-3 Initiate Consult Request

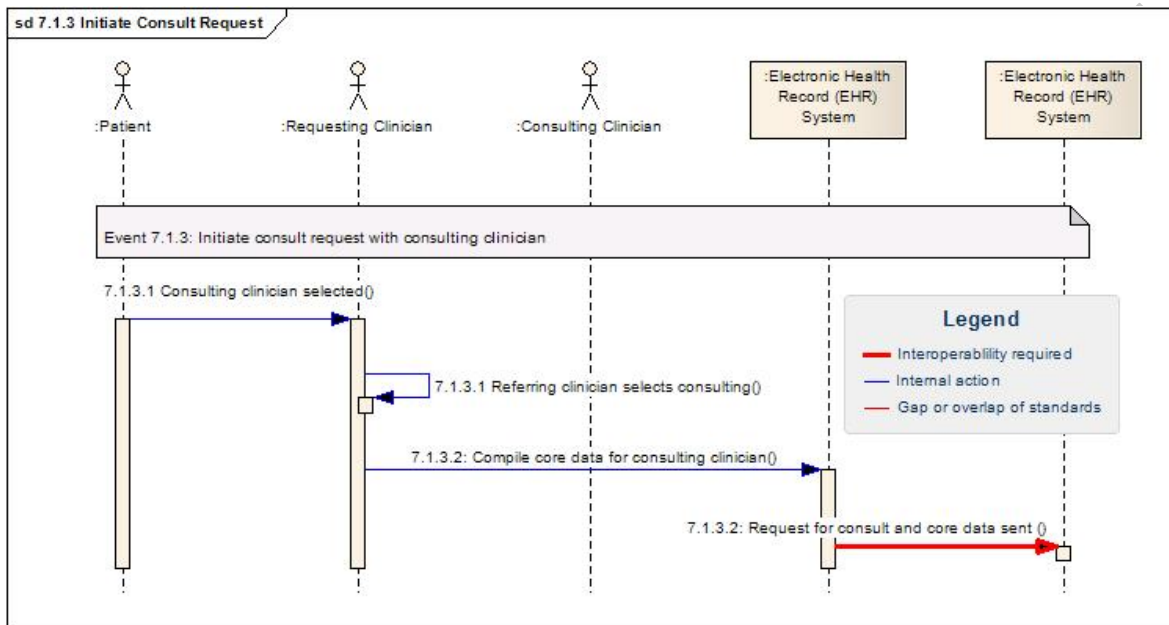


Figure 6.3-4 represents the UML interaction diagram for the Consultation Scenario from the perspective of the referring clinician for Event 7.1.4. The referring clinician will compile relevant clinical information for the consulting clinician. The referring clinician's EHR will then send the information to the consulting clinician's EHR. The consulting clinician can also enter a request for specific clinical information into his/her EHR. The consulting clinician's EHR will then send a request for the specific information to the referring clinician's EHR. The referring clinician's EHR provides the consulting clinician access to the requested information, either through a web portal or by sending the information to the consulting clinician's EHR.

Figure 6.3-4 Provide Access to Additional Information

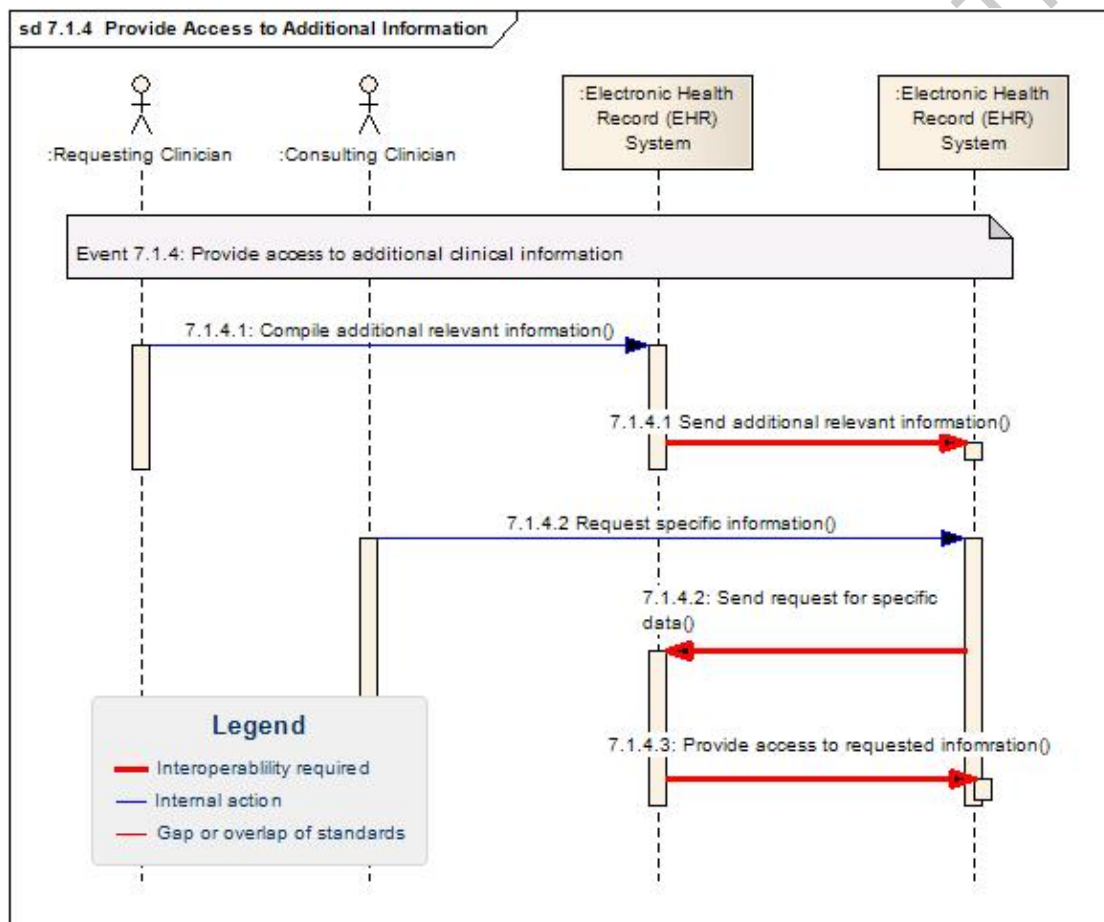


Figure 6.3-5 represents the UML interaction diagram for the Consultation Scenario from the perspective of the referring clinician for Event 7.1.5. The referring clinician's EHR will receive a copy of the consult report from the consulting clinician's EHR. The referring clinician will review the report and continue to manage the patient.

Figure 6.3-5 Receive and View Consult Report

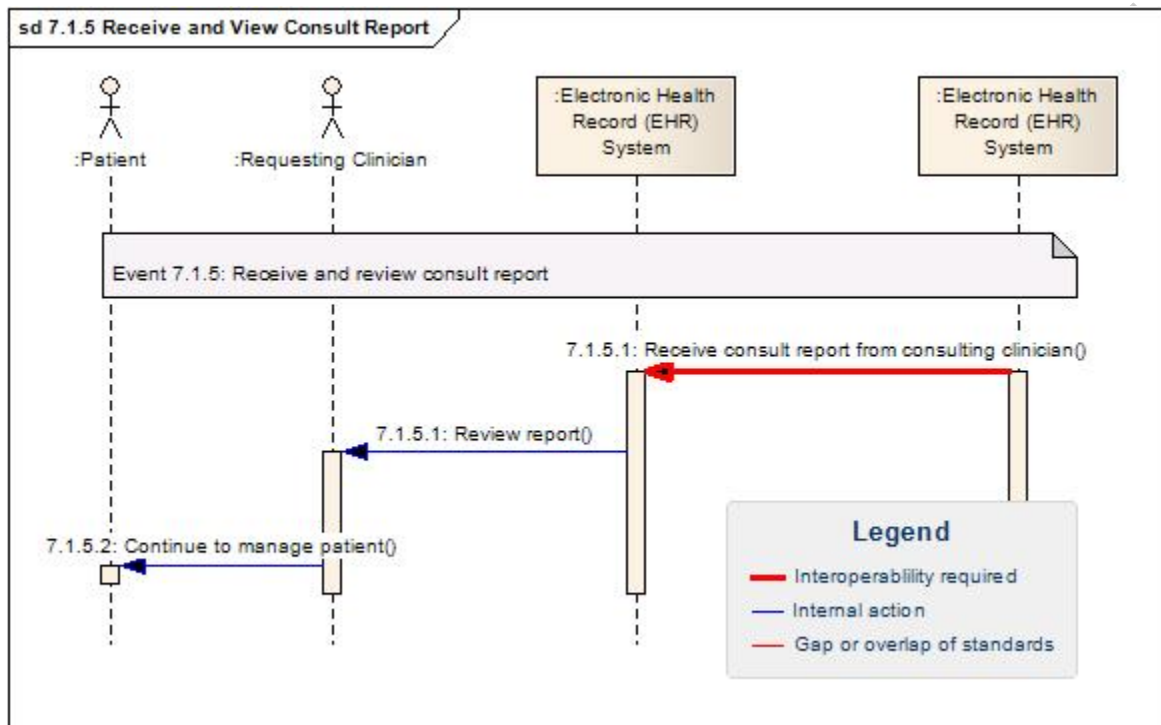


Figure 6.3-6 represents the UML interaction diagram for the Consultation Scenario from the perspective of the Consulting Clinician for Event 7.2. The consulting clinician's EHR receives a consultation request and a core dataset from the referring clinician's EHR. The consulting clinician will review the request and the core dataset. He/she will perform medication reconciliation on the patient as per HITSP/IS07 Medication Management. The consulting clinician will evaluate the patient and will provide needed information to the health plan for the consult to be authorized and covered.

Figure 6.3-6 Consulting View

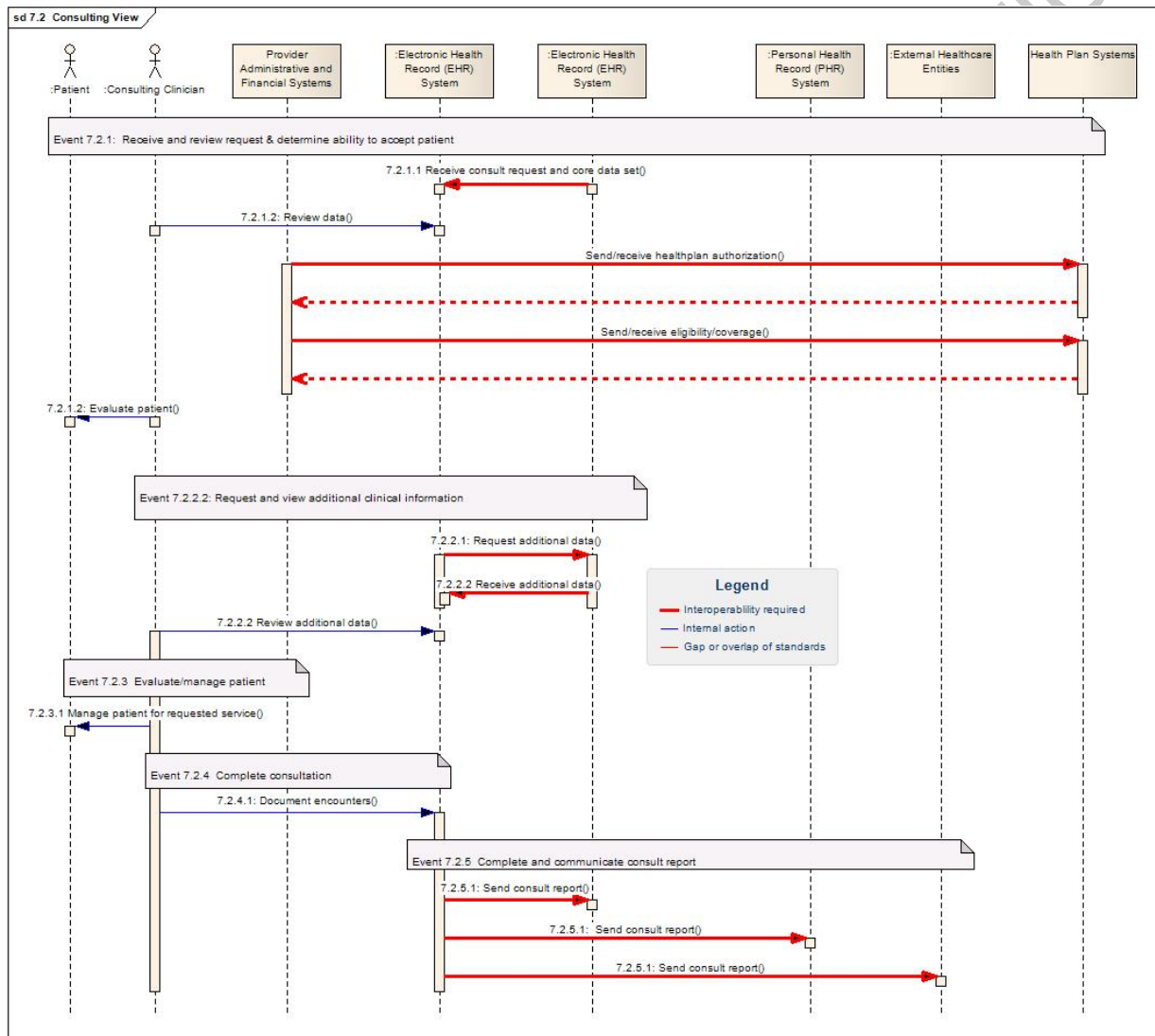


Figure 6.3-7 represents the UML interaction diagram for the Consultation Scenario from the perspective of the consumer/patient for Events 7.3.1 and 7.3.2.

Figure 6.3-7 Consumer View

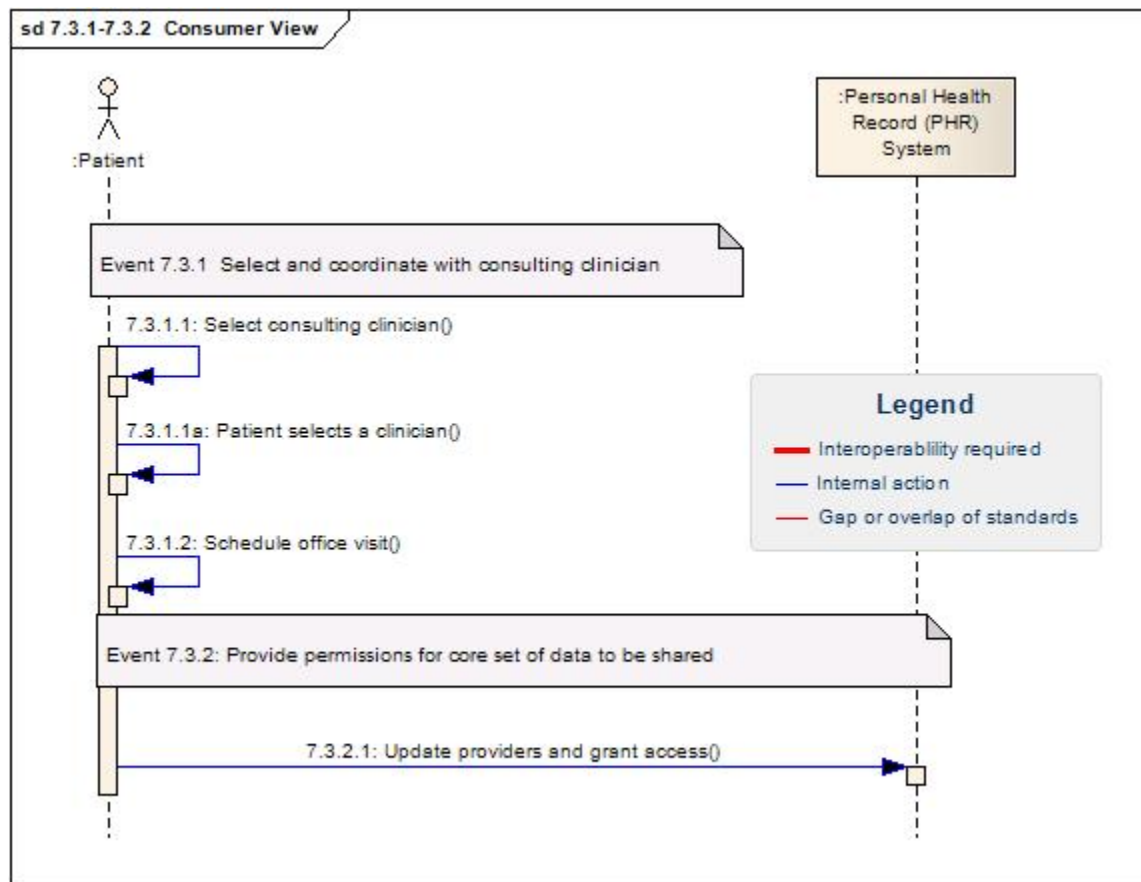


Figure 6.3-8 represents the UML interaction diagram for the Consultation Scenario from the perspective of the consumer/patient for Events 7.3.3 and 7.3.4.

Figure 6.3-8 Complete Consult

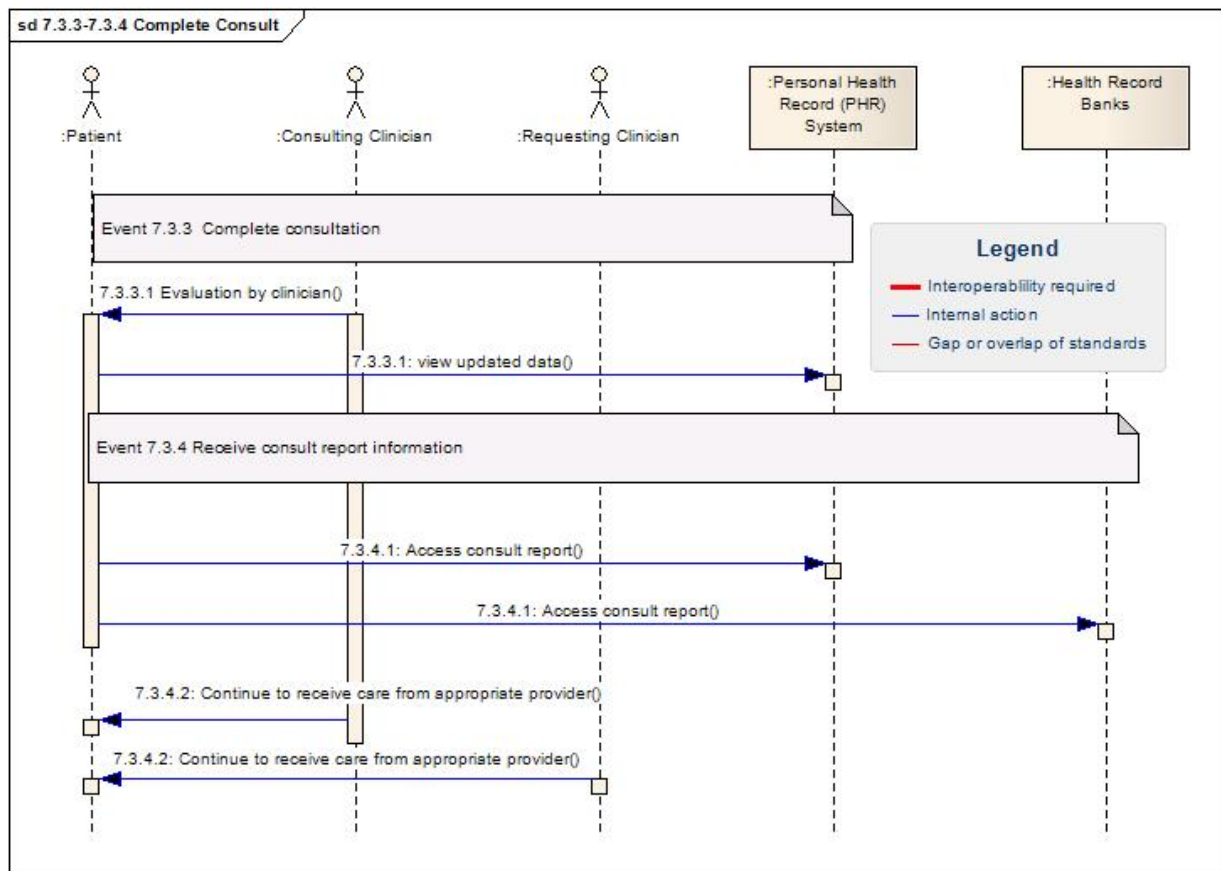


Figure 6.3-9 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the transferring facility for Events 8.1.2. The transferring clinician will discuss the transfer with the patient and will request his EHR system to determine what authorization is needed and what coverage is available for the transfer. The transferring EHR will also request an authorization for transfer from the health plan.

Figure 6.3-9 Select Next Care Setting

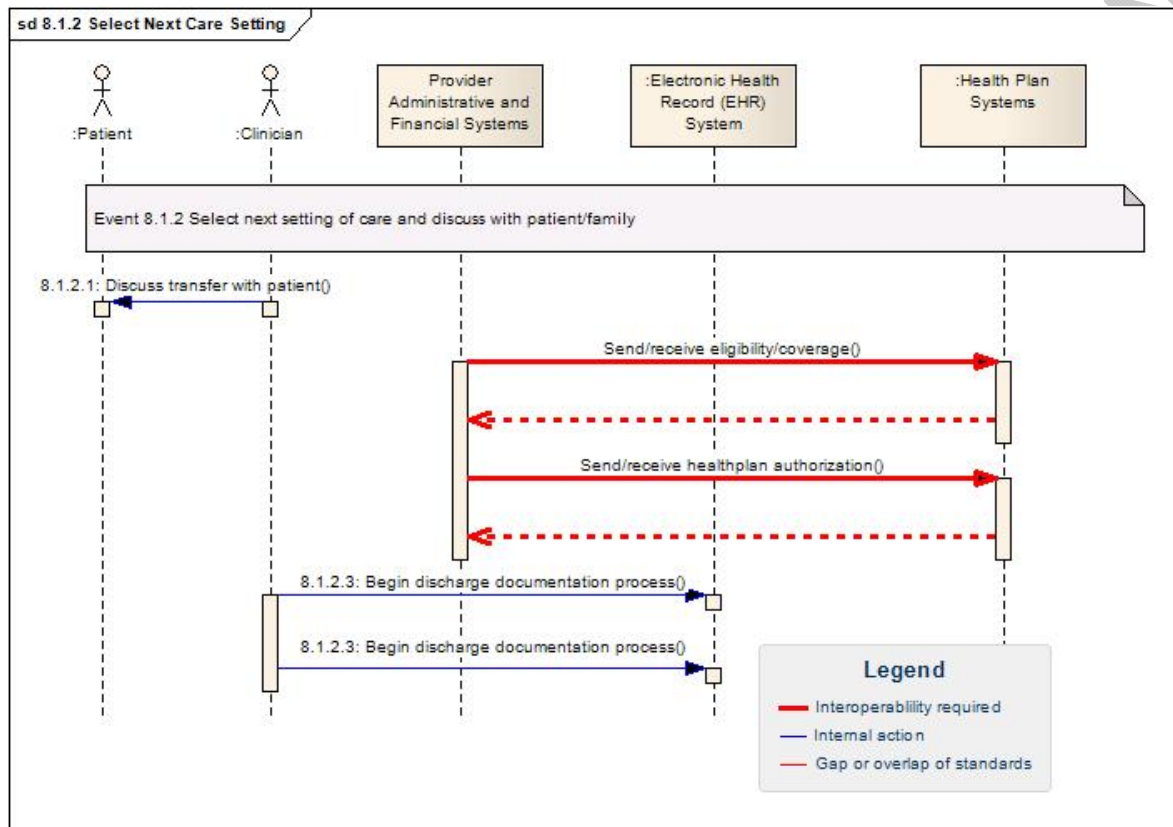


Figure 6.3-10 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the transferring facility for Event 8.1.3.

Figure 6.3-10 Initiate Plan and Coordinate Transfer/Discharge

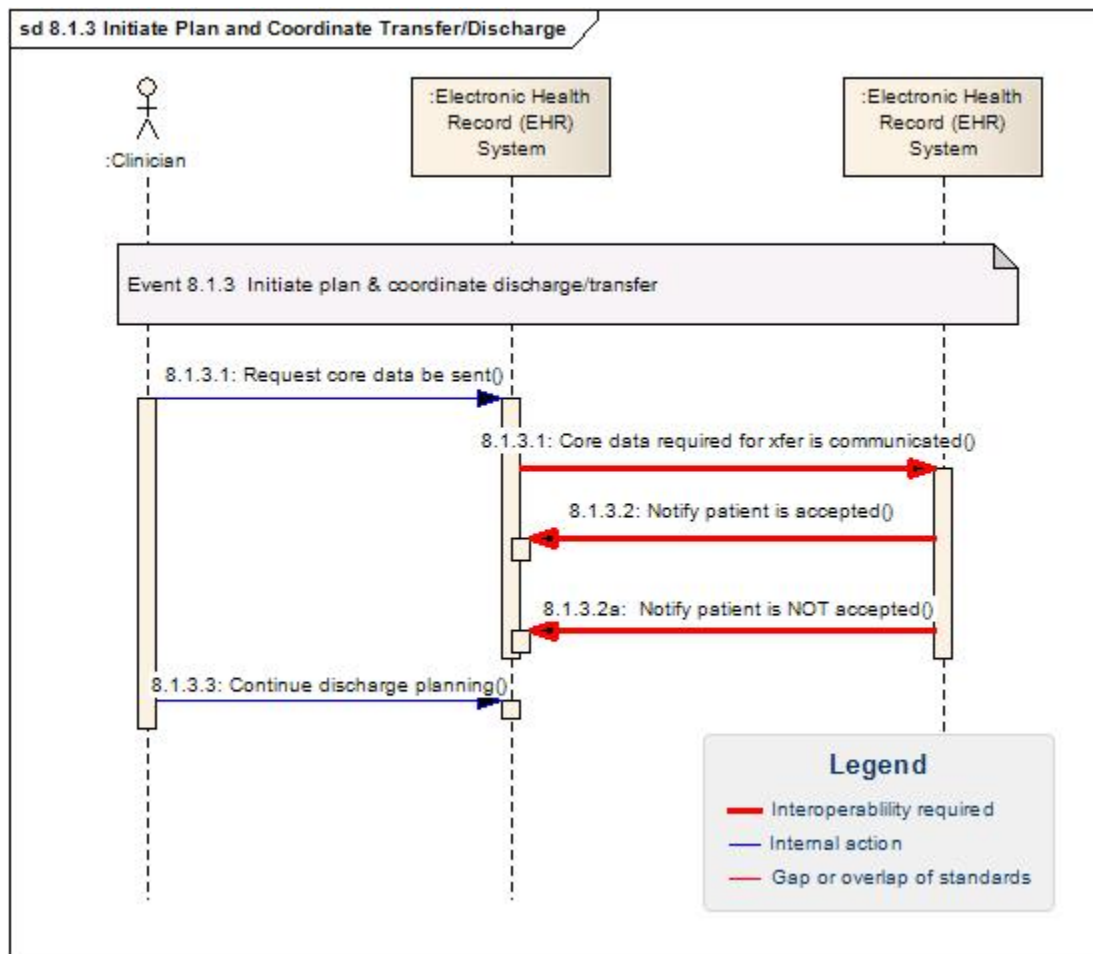


Figure 6.3-11 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the transferring facility for Events 8.1.4 and 8.1.5.

Figure 6.3-11 Transfer Patient and Send Data

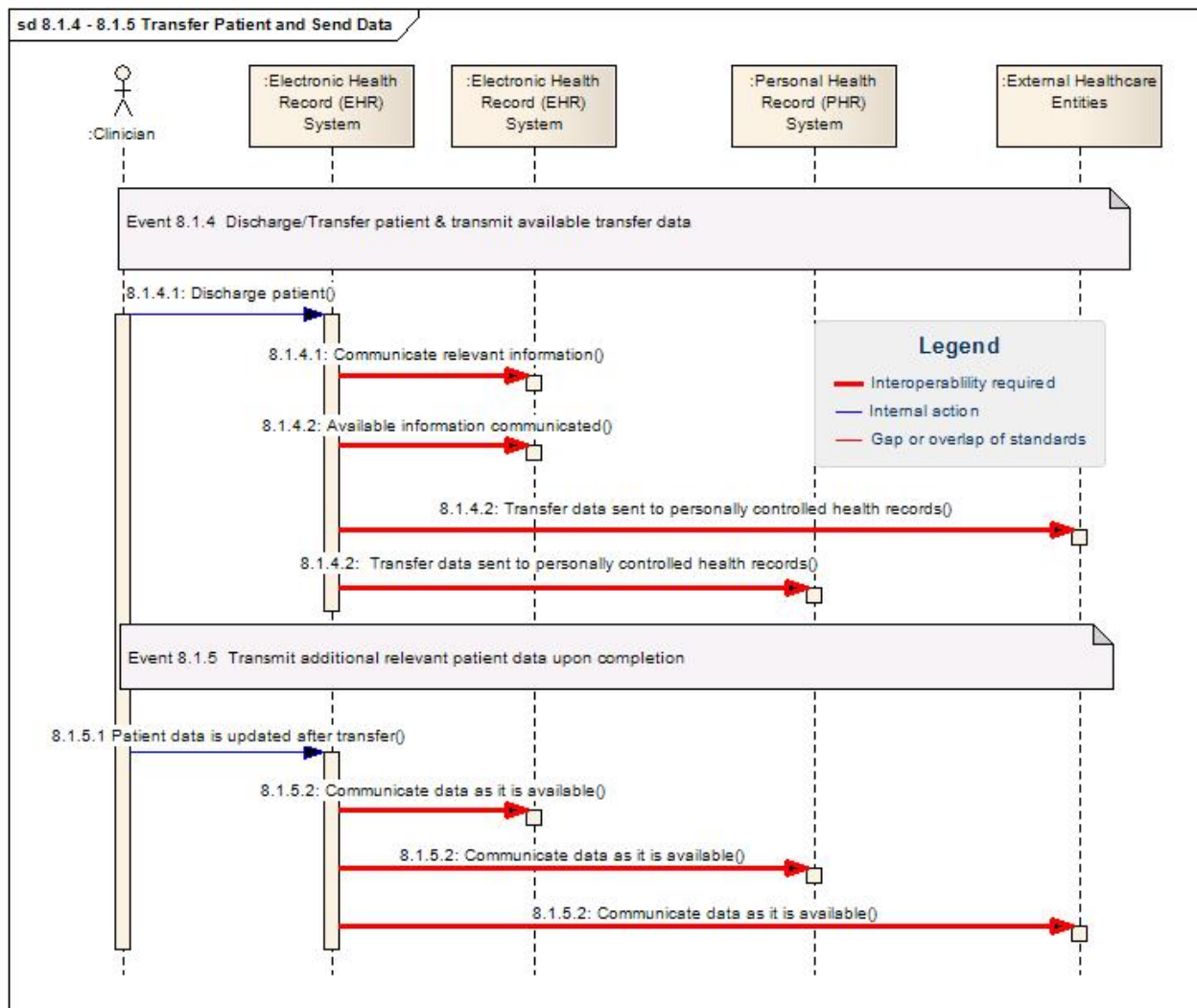


Figure 6.3-12 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the transferring facility for Event 8.1.6.

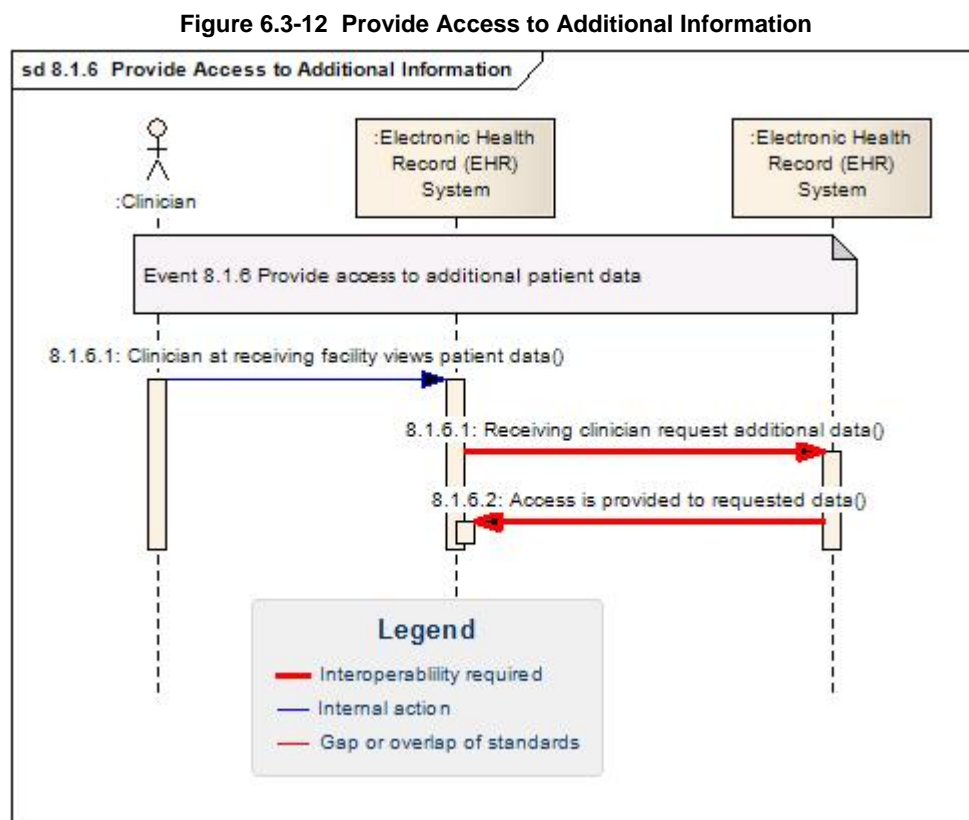


Figure 6.3-13 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the receiving facility for Events 8.2.1 and 8.2.2.

Figure 6.3-13 Receive Request to Accept Patient

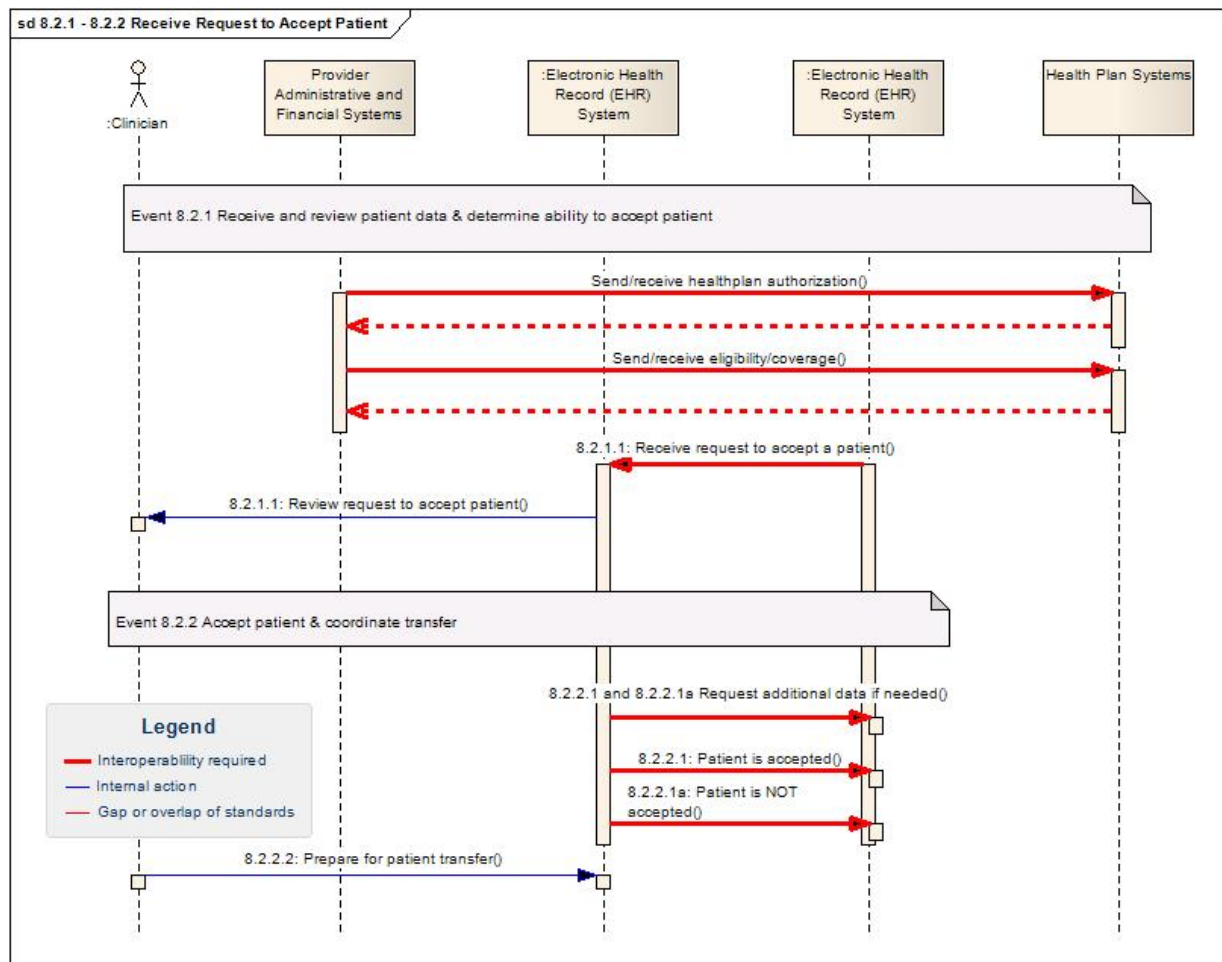


Figure 6.3-14 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the receiving facility for Events 8.2.3, 8.2.4 and 8.2.5.

Figure 6.3-14 Receive and Manage Patient

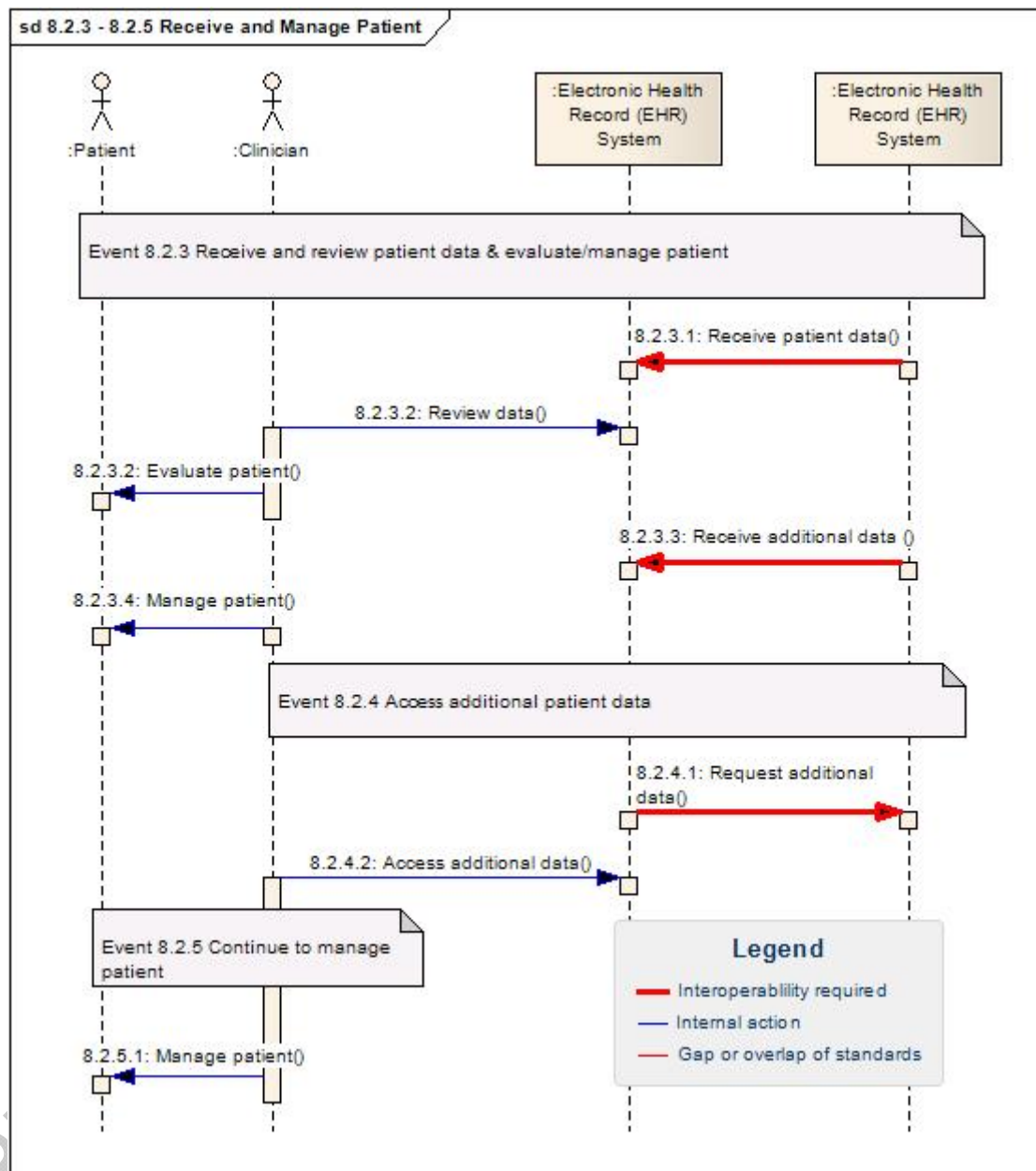
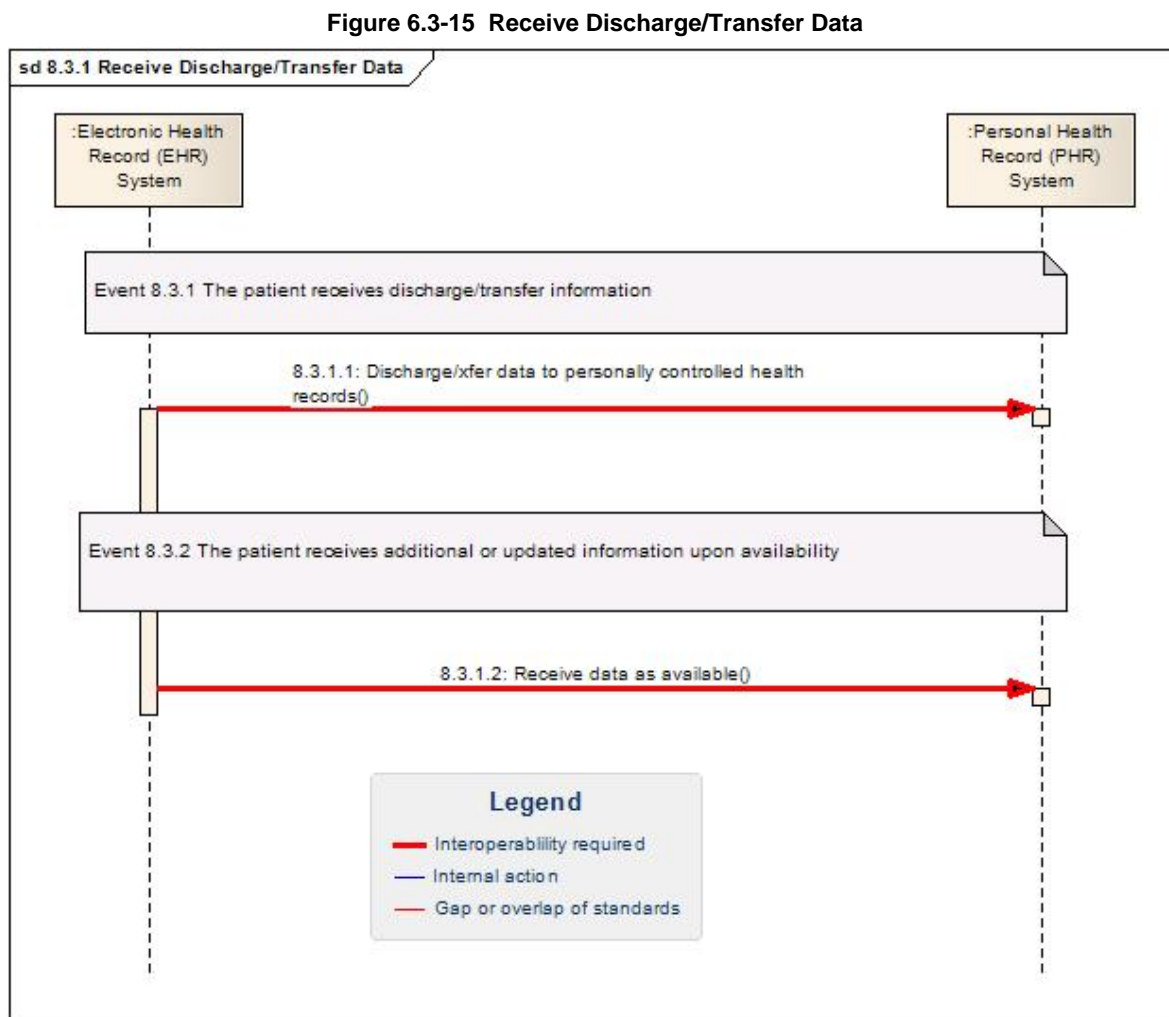


Figure 6.3-15 represents the UML interaction diagram for the Transfers of Care Scenario from the perspective of the patient for Event 8.3.1.



6.4 MAPPING OF CONSTRUCTS TO INFORMATION EXCHANGE AND DATA REQUIREMENTS

Table 6.4-1 below provides a mapping of the HITSP constructs that will be used in the design of the Interoperability Specification, and the data and information exchange requirements that are being satisfied by the construct. These requirements are limited to those that are deemed within scope for this Interoperability Specification, which are described in Section 3.1.



Table 6.4-1 Mapping of Requirements to HITSP Constructs

Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary	HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary	HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/C62 - Unstructured Document HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details	HITSP/C19 - Entity Identity Assertion HITSP/C35 - Lab Result Terminology HITSP/C37 - Lab Report Document HITSP/C41 - Radiology Result Message HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives HITSP/TP89 - Sharing Imaging Results
IER25 Send/Receive decision support data	GAP	GAP HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry	GAP HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query
IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information	HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T68 – Patient Health Plan Authorization Request and Response HITSP/T79 - Pharmacy to Health Plan Authorization Request and Response HITSP/T85 - Administrative Transport to Health Plan



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER1 Provide Authorization and consent	DR10 Consulting Provider Registry	HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary	HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C35 - Lab Result Terminology HITSP/C36 - Lab Result Message HITSP/C37 - Lab Report Document HITSP/C41 - Radiology Result Message HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T14 - Send Laboratory Result Message HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives HITSP/TP89 – Sharing Imaging Results
IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer	HITSP/C19 - Entity Identity Assertion HITSP/C62 - Unstructured Document HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details	HITSP/C84 – Consult and History & Physical Note HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer	GAP HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information	HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T40 – Patient Health Plan Eligibility Verification HITSP/T85 – Administrative Transport to Health Plan HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary	GAP HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C35 - Lab Result Terminology HITSP/C37 - Lab Report Document HITSP/C41 - Radiology Result Message HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/T67 - Clinical Referral Request Transport HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives HITSP/TP89 - Sharing Imaging Results
IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary	HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C35 - Lab Result Terminology HITSP/C37 - Lab Report Document HITSP/C41 - Radiology Result Message HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information	HITSP/C19 - Entity Identity Assertion HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD) HITSP/C35 - Lab Result Terminology HITSP/C36 - Lab Result Message HITSP/C37 - Lab Report Document HITSP/C41 - Radiology Result Message HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS) HITSP/T14 - Send Laboratory Result Message HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/T67 - Clinical Referral Request Transport HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives HITSP/TP89 - Sharing Imaging Results
IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary	HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T31 - Document Reliable Interchange HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives
IER57 Identify provider based on health plan	DR10 Consulting Provider Registry	GAP HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/T68 - Patient Health Plan Authorization Request and Response HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/TP30 - Manage Consent Directives



Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)	Construct Name
IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details	HITSP/C19 - Entity Identity Assertion HITSP/T15 - Collect and Communicate Security Audit Trail HITSP/T16 - Consistent Time HITSP/T17 - Secured Communication Channel HITSP/T23 - Patient Demographics Query HITSP/T31 - Document Reliable Interchange HITSP/T33 - Transfer of Documents on Media HITSP/TP13 - Manage Sharing of Documents HITSP/TP20 - Access Control HITSP/TP22 - Patient ID Cross-Referencing HITSP/T29 - Notification of Document Availability HITSP/TP30 - Manage Consent Directives

Table 6.4-2 provides the mapping sorted by constructs.

Table 6.4-2 Mapping of HITSP Constructs to Requirements

Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
HITSP/C19 - Entity Identity Assertion	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/C32 - Summary Documents Using HL7 Continuity of Care Document (CCD)	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/C35 - Lab Result Terminology	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/C36 - Lab Result Message	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/C37 - Lab Report Document	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/C41 - Radiology Result Message	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
HITSP/C48 - Encounter Document Using IHE Medical Summary (XDS-MS)	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/C62 - Unstructured Document	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary The construct also has the data requirement to include an unstructured, presentation preserved format, such as a PDF document., heart valve data sheets, copies of old surgical reports etc.
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
HITSP/C84 – Consult and History & Physical Note	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
HITSP/T14 - Send Laboratory Result Message	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/T15 - Collect and Communicate Security Audit Trail	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T16 - Consistent Time	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T17 - Secured Communication Channel	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T23 - Patient Demographics Query	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER11 Identify provider based on patient preference	DR10 Consulting Provider Registry
	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T29 Notification of Document Availability	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T31 - Document Reliable Interchange	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T33 - Transfer of Documents on Media	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/T40 – Patient Health Plan Eligibility Verification	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
HITSP/T67 – Clinical Referral Request Transport	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
HITSP/T68 – Patient Health Plan Authorization Request and Response	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
HITSP/T79 - Pharmacy to Health Plan Authorization Request and Response	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
HITSP/T85 – Administrative Transport to Health Plan	IER15 Send/Receive health plan authorization	DR6 Health Plan Eligibility Information
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
HITSP/TP13 - Manage Sharing of Documents	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/TP20 - Access Control	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/TP22 - Patient ID Cross-Referencing	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/TP30 - Manage Consent Directives	IER16 Send/Receive Clinical Summary	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER28 Download Historical Health data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER25 Send/Receive decision support data	GAP
	IER1 Provide Authorization and consent	DR10 Consulting Provider Registry
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER63 Request additional patient data	DR57 Demographic Data – Consult and Transfer
	IER45 Send/Receive consult results report	DR57 Demographic Data – Consult and Transfer DR9 Consultation Completion Details
	IER43 Send/Receive accept patient	DR57 Demographic Data – Consult and Transfer
	IER14 Send/Receive health plan eligibility	DR6 Health Plan Eligibility Information
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER60 Send/Receive discharge summary	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary



Construct Name	Information Exchange Requirement Number (IER#)	Data Requirement Number (DR#)
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information
	IER37 Update medication information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER57 Identify provider based on health plan	DR10 Consulting Provider Registry
	IER13 Send/Receive notification of document availability	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
HITSP/TP89 – Sharing Imaging Results	IER62 Send/Receive encounter or full episode of care record	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary DR9 Consultation Completion Details
	IER22 Send/Receive additional patient information	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information DR60 Patient Encounter/Discharge Summary
	IER17 Send/Receive transfer of care data	DR57 Demographic Data – Consult and Transfer DR60 Patient Encounter/Discharge Summary
	IER64 Send/Receive consult request data	DR57 Demographic Data – Consult and Transfer DR2 Patient Clinical Information



7.0 DOCUMENT UPDATES

The following sections provide the details of updates made to this document.

7.1 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).

5089, 5091, 5212, 5215, 5216, 5219, 5223, 5225, 5226, 5227, 5228, 5232, 5234, 5236, 5239, 5240, 5246, 5247, 5248, 5249, 5251, 5252, 5254, 5255, 5256, 5258, 5260, 5263, 5265, 5266, 5268, 5269, 5310, 5314, 5316, 5319, 5321, 5322, 5323, 5324, 5325, 5326, 5327, 5328, 5329, 5330, 5331, 5332, 5345, 5356, 5369, 5606, 5634, 5635, 6263

The full text of the comments along with the Technical Committee's disposition can be reviewed on the [HITSP Public Web Site](#).

7.1.1 UPDATES FROM PUBLIC COMMENT

- Incorporated all of the 84 Public Comment dispositions into the document
- Added the following gaps in Section 4.2
 - Send/Receive accept patient: there is currently no way defined to send an acknowledgement to the facility that the facility can accept the patient
 - Identify patient's provider preference: there is no specification for interaction with a provider registry that could provide functionality for a patient to select a provider by preference
 - Identify/Select a consulting clinician or next setting of care based on capability and health plan association: there is a gap for identifying provider and/or facility that meets preferences
- Updated UML diagrams
 - Corrected use of HITSP/TP13 Manage Sharing of Documents where it is used
 - Added HITSP/T31 Document Reliable Interchange as an option where TP13 is used
 - Changed "referring clinician" to "requesting clinician" so that it matched other uses of the term in the document
 - Updated construct names where needed
 - Updated component diagrams to match IER and DR harmonized numbering
 - Updated diagrams for clarity
- Added missing standards and corresponding copyrights
- Made editorial changes as suggested by public comments
 - Updated construct names and descriptions
 - Updated business actors and stakeholders as per HITSP Harmonized Data Set spreadsheet



- Corrected use of IERs and DRs as per public comments
 - Corrected discussion language for clarity
- Added text regarding the use of HITSP/T85 Administrative Transport to Health Plan, to Section 3.2
- Moved the following tables and figures to the Appendix to allow easier access to the Design Section of the Interoperability Specification:
 - Table 2.2.1-1 – All the tables that provided the Mapping of Use Case Actions to Information Exchange Requirements
 - Figure 2.2.4-1 – All the High Level UML Sequence Diagrams
 - Table 3.2.2-1 – Mapping of HITSP constructs to Requirements

7.1.2 GLOBAL CHANGES

The following changes were applied through-out the document for clarification and consistency.

- Added IS business actor in order to consolidate use of HITSP Security, Privacy and Infrastructure constructs
 - Removed Locator Service, Data Repository, Patient Identification Service and Registries from UML diagrams, business actor tables and Table 3.2.3-1 and replaced them with Infrastructure Services business actor
- Renumbered IERs and DRs as part of HITSP IER and DR HITSP Harmonization Data Set
 - Updated component diagrams in Section 2.2.4
 - Updated IER and DR numbers and names in Tables: 2.2.2-1, 2.2.2-2, 2.2.3-1, 6.2-1, 6.4-1

7.2 **DECEMBER 18, 2008**

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

