

HITSP EHR-Centric Capabilities

HITSP/CAP000



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1.0 INTRODUCTION

1.1 HITSP EHR-CENTRIC CAPABILITIES OVERVIEW

This Reference Document provides a central location for, and all inclusive list of, current HITSP Capabilities. These Capabilities were developed as a part of the HITSP/IS107 EHR-Centric Interoperability Specification. HITSP/IS107 consolidates all information exchanges that involve an Electronic Health Record (EHR) System within any of the thirteen HITSP Interoperability Specifications existing as of February 13, 2009, the enactment date of the American Recovery and Reinvestment Act (ARRA).

Since the most up to date version of HITSP/IS107 was Panel Approved on July 8, 2009, HITSP has been updating the Capabilities to generalize them and to satisfy the requirements of HITSP 2009 Work Items identified by the Office of the National Coordinator (ONC). These updated versions of the Capabilities will be posted as individual documents on the HITSP.org website for Public Review as they are developed and will be finalized for Panel Review and Approval in January, 2010. At that time, this Reference Document will no longer be available as the individual Capability documents should be referenced as the most up to date versions.

1.2 COPYRIGHT PERMISSIONS

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2.0 LIST OF CAPABILITIES

2.1 LIST OF CAPABILITIES

The following table lists the HITSP Capabilities, their ID number, and a short description of each. A Capability specifies a business service (e.g., the HITSP Communicate Hospital Prescriptions Capability supports electronic prescribing for inpatient prescription orders). Each HITSP Capability is based on HITSP constructs (e.g., Transactions, Transactions Packages, and Components) and secure Infrastructure Service Collaborations. It is expected that further policy decisions may identify proper subsets of this overall specification for implementation (e.g., for definition of Meaningful Use for 2011). It is the intention of this specification that each Capability could be used as part or all of an independent subset and that definition of such a proper subset could identify additional constraints to be placed on the Capability(s) included in the subset.

Note that Capabilities may be combined by an Interoperability Specification to address more inclusive requirements – for example, support for the formal process of medication reconciliation can be addressed when HITSP/CAP118 Communicate Hospital Prescription is associated with HITSP/CAP119 Communicate Structured Document (medications and allergies).

In this Reference Document, the Capabilities are limited to those information exchanges that involve an EHR in one or more of the existing HITSP Interoperability Specifications (Table 4-1 in the Appendix portrays what ISs each Capability is derived from). The design specifications for each Capability are provided in Section 3.0.

Table 2-1 HITSP Information Exchange Capabilities

Capability ID	Capability Name	Capability Description
HITSP/CAP117	Communicate Ambulatory and Long Term Care Prescription	This Capability addresses interoperability requirements that support electronic prescribing in the ambulatory and long term care environment. The Capability supports: <ul style="list-style-type: none">• Transmittal of new or modified prescriptions• Transmittal of prescription refills and renewals• Communication of dispensing status• Access to formulary and benefit information
HITSP/CAP118	Communicate Hospital Prescription	This Capability addresses interoperability requirements that support electronic prescribing for inpatient orders that can occur within an organization or between organizations. The Capability supports the transmittal of a new or modified prescription from a Hospital to an internal or external pharmacy. It also includes the optionality to access formulary and benefit information
HITSP/CAP119	Communicate Structured Document	This Capability addresses interoperability requirements that support the communication of structured health data related to a patient in a context set by the source of the document who is attesting to its content. Several document content subsets, structured according to the HL7 CDA standard, are supported by this Capability. The following are examples of the type of structured data that may be used: <ul style="list-style-type: none">• Continuity of Care Document (CCD)• Emergency Department Encounter Summary• Discharge Summary (In-patient encounter and/or episodes of care)• Referral Summary Ambulatory (encounter and/or episodes of care)• Consultation Notes• History and Physical• Personal Health Device Monitoring Document• Healthcare Associated Infection (HAI) Report Document Document creators shall support a number of the HITSP specified coded terminologies as defined by specific content subsets specified in this Capability



Capability ID	Capability Name	Capability Description
HITSP/CAP120	Communicate Unstructured Document	This Capability addresses interoperability requirements that support the communication of a set of unstructured health data related to a patient in a context set by the source of the document who is attesting to its content. Two types of specific unstructured content are supported, both with a structured CDA header: <ul style="list-style-type: none"> • PDF-A supporting long-term archival • UTF-8 text
HITSP/CAP121	Communicate Clinical Referral Request	This Capability addresses interoperability requirements that support provider-to-provider (clinical) referral request interaction. It allows the bundling of the referral request document with other relevant clinical documents of interest by referencing such documents as shared by other Capabilities such as: HITSP/CAP119 Communicate Structured Document; HITSP/CAP120 Communicate Unstructured Document; or HITSP/CAP133 Communicate Immunization Summary
HITSP/CAP122	Retrieve Medical Knowledge	This Capability addresses the requirements to retrieve medical knowledge that is not patient-specific based on context parameters. The actual content delivered is not constrained by this Capability; this Capability focuses on providing the mechanism to ask for (query) and receive the medical knowledge
HITSP/CAP123	Retrieve Existing Data	This Capability supports queries for clinical data (e.g., common observations, vital signs, problems, medications, allergies, immunizations, diagnostic results, professional services, procedures and visit history)
HITSP/CAP124	Establish Secure Web Access	This Capability is focused on providing a secured method to access information available from document repositories (e.g., Laboratory Report) in order to view them locally on a system. The chosen method for viewing the document content is through a web browser
HITSP/CAP125	Retrieve Genomic Decision Support	This Capability addresses interoperability requirements that support the communication of genetic and family history information and an assessment of genetic risk of disease for a patient
HITSP/CAP126	Communicate Lab Results Message	This Capability addresses interoperability requirements that support the sending of a set of laboratory test results. Ordering Providers of Care receive results as a laboratory results message. The communication of the order is out of scope for this Capability. The content of these test results may be either or both: General Laboratory Test Results; Microbiology Test Results. This Capability may use content anonymization
HITSP/CAP127	Communicate Lab Results Document	This Capability addresses interoperability requirements that support the communication of a set of structured laboratory results related to a patient in a context set by the source of the document who is attesting to its content. Non-ordering Providers of Care access historical laboratory results as documents and "copy-to" Providers of Care may receive document availability notifications to retrieve such lab report documents. Lab Report content creators shall support HITSP specified coded terminologies as defined by specific content subsets specified in this Capability for: General Laboratory Test Results; Microbiology Test Results. This Capability may use content anonymization
HITSP/CAP128	Communicate Imaging Information	This Capability addresses interoperability requirements that support the communication of a set of imaging results (i.e., reports, image series from imaging studies) related to a patient in a context set. This is done by an Imaging System acting as the information source attesting to its content. This Capability may use content anonymization



Capability ID	Capability Name	Capability Description
HITSP/CAP129	Communicate Quality Measure Data	<p>This Capability addresses interoperability to support hospital and clinician collection and communication of patient encounter data to support the analysis needed to identify a clinician or hospital's results relative to an EHR-compatible, standards-based quality measure.</p> <p>Quality measures may include:</p> <ul style="list-style-type: none"> • Patient-level clinical detail from which to compute quality measures. Patient level clinical data is compiled from both the local systems and from longitudinal data available through other sources such as a Health Information Exchange (HIE) • Patient-level quality data based upon clinical detail. The "patient-level quality data reports" are exported from EHRs or quality-monitoring applications at the point of care <p>This Capability may use content anonymization. Pseudonymization, if needed, is supported by the HITSP/CAP138 - Retrieve Pseudonym.</p> <p>This Capability may use Value Set Sharing</p>
HITSP/CAP130	Communicate Quality Measure Specification	<p>This Capability addresses interoperability requirements for an EHR-compatible, standards-based quality measure. In the measure specification, needed patient encounter data elements are identified so they can be extracted from local systems and from longitudinal data available through other sources such as a Health Information Exchange (HIE). The measure specification also includes various sets of exclusion/inclusion criteria to identify which patients to include in calculation of the measure. This Capability may use Value Set Sharing</p>
HITSP/CAP131	Update Immunization Registry	<p>This Capability addresses interoperability requirements that enable electronic communication of immunization data among clinicians, with patients, and with immunization registries as unsolicited structured patient immunization data. This Capability may use content anonymization</p>
HITSP/CAP132	Retrieve Immunization Registry Information	<p>This Capability addresses interoperability requirements that support the query and retrieval of structured immunization data related to a patient's vaccination. The Capability may use one of the following:</p> <ul style="list-style-type: none"> • HL7V2 query with implicit Patient Identity resolution • HL7V2 query with explicit Patient Identity resolution prior to query • HL7V3 Query for Existing Data <p>The query for immunization documents from HITSP/CAP133 - Communicate Immunization Summary may also be used</p>
HITSP/CAP133	Communicate Immunization Summary	<p>This Capability addresses interoperability requirements to support the communication of structured health data related to a patient's vaccination history. This immunization document contains a history of administered vaccines with details such as lot number, who administered it, as well as other information related to the patient's care such as medical history, medications, allergies, vital signs</p>
HITSP/CAP135	Retrieve and Populate Form	<p>This Capability addresses interoperability requirements to support the upload of specific captured data (e.g. public health surveillance reportable conditions, healthcare associated infection reporting) to Public Health Monitoring Systems and Quality Organizations Systems. The forms presented may be pre-populated by information provided by the clinical or laboratory information systems to avoid manual re-entry. A number of supplemental information variables may be captured from within the user's clinical information system to improve the workflow and timeliness of required reporting. One or more types of form content may be supported:</p> <ul style="list-style-type: none"> • Pre-population for Public Health Case Reports from Structured Documents using CDA • Pre-population for Quality Data from Structured Documents using CDA • No pre-population content <p>Systems may optionally support the means to retrieve request for clarifications</p>



Capability ID	Capability Name	Capability Description
HITSP/CAP136	Communicate Emergency Alert	This Capability addresses interoperability requirements to support multicast of non-patient specific notification messages about emergencies events, alerts concerning incidence of communicable diseases, alerts concerning population needs for vaccines and other generic alerts sent to an identified channel. The intended recipients are populations such as "all emergency departments in XXX county", "within a geographic area", etc. Note that this Capability is not used to communicate patient-specific or identifiable data
HITSP/CAP137	Communicate Encounter Information Message	This Capability addresses interoperability requirements to send specific clinical encounter data among multiple systems. The content may be either or both: <ul style="list-style-type: none"> • Encounter Data Message • Radiology Results Message It may be used in conjunction with other Capabilities such as those related to the communication of laboratory data. This Capability includes optional anonymization of content
HITSP/CAP138	Retrieve Pseudonym	This Capability addresses interoperability requirements to support a particular type of anonymization that both removes the association with a data subject, and adds an association between a particular set of characteristics relating to the data subject and one or more pseudonyms. This enables a process of supplying an alternative identifier, which permits a patient to be referred to by a key that suppresses his/her actual identification information. The purpose of this Capability is to offer a pseudonymization framework for situations that require the use of specific data without disclosing the specific identity of patients or providers. Pseudo-identifiers are intended to allow accessibility to clinical information, while safeguarding any information that may compromise the privacy of the individual patient or provider. However, unlike anonymization, the alternative identifier key can be used to re-identify the individuals whose data was used
HITSP/CAP139	Communicate Resource Utilization	This Capability specifies the message and content necessary to report utilization and status of health provider resources to systems supporting emergency management officials at local, state or national levels who have a need to know the availability of hospital and other healthcare resources. The resource utilization information may be provided routinely or in response to a request
HITSP/CAP140	Communicate Benefits and Eligibility	This Capability addresses interoperability requirements that support electronic inquiry and response from a patient's eligibility for health insurance benefits. The information exchanged includes the following: <ul style="list-style-type: none"> • A patient's identification (i.e., name, date of birth, and the health plan's member identification number) • Communication of a member's status of coverage and benefit information and financial liability • Access to information about types of services, benefits and coverage for various medical care and medications. It provides clinicians with information about each member's health insurance coverage and benefits
HITSP/CAP141	Communicate Referral Authorization	This Capability addresses interoperability requirements that support electronic inquiry and response to authorizing a patient (health plan member) to be referred for service by another provider or to receive a type of service or medication under the patient's health insurance benefits. The Capability supports the transmittal of a patient's name and insurance identification number with the request for the type of service. It also includes the following optional requirements: <ul style="list-style-type: none"> • Identification of the type of service or medication requested for benefit coverage (does not guarantee payment by insurance provider) • Communication of a referral notification number or authorization number from the Payer System to the Provider System. It provides clinicians and pharmacists with information about each patient's health insurance coverage and benefits. It may include information on referral or authorization permission



Capability ID	Capability Name	Capability Description
HITSP/CAP142	Retrieve Communications Recipient	This Capability addresses interoperability requirements that support access to a directory to identify one or more communication recipients in order to deliver 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
HITSP/CAP143	Manage Consumer Preference and Consents	This Capability addresses management of consumer preferences and consents as an acknowledgement of a privacy policy. This Capability is used to capture a patient or consumer agreement to one or more privacy policies; where examples of a privacy policy may represent a consent, dissent, authorization for data use, authorization for organizational access, or authorization for a specific clinical trial. This Capability also supports the recording of changes to prior privacy policies such as when a patient changes their level of participation or requests that data no-longer be made available because they have left the region



3.0 CAPABILITY SPECIFICATIONS

3.1 CAPABILITIES OVERVIEW

This section provides an overview of Capabilities including typical topologies, descriptions of Service Collaborations used in Capabilities and global constraints applied to all Capabilities.

3.1.1 INTRODUCTION

This section provides guidance and specifications for implementing Capabilities and underlying Service Collaborations that are supported by EHR systems. In addition there is a brief description of network topologies that can be supported by Capabilities.

Capability Specifications can be implemented by EHR systems to fulfill business requirements, such as those described in the ARRA. Capabilities are implementable business services that specify interoperable information exchanges using HITSP constructs. Capabilities may be combined by an Interoperability Specification to address more inclusive requirements – for example, support for the formal process of medication reconciliation can be addressed when HITSP/CAP118 Communicate Hospital Prescription is associated with HITSP/CAP119 Communicate Structured Document (medications and allergies).

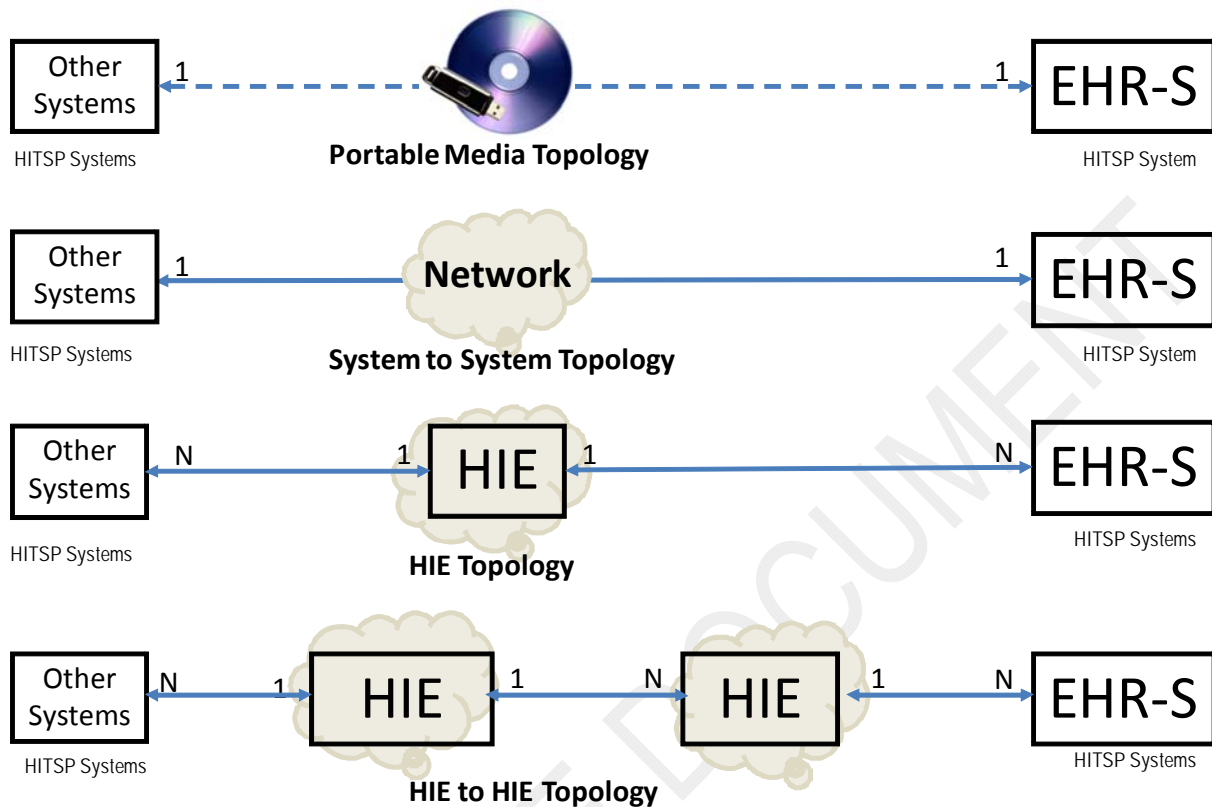
Each Capability section defined later in this section contains an overview, the participating systems, a list of the HITSP constructs used and a detailed design section including constraints and interfaces. All Capabilities are based on EHR system information exchanges that are defined in the existing HITSP Interoperability Specifications.

3.1.2 TYPICAL TOPOLOGIES SUPPORTED BY CAPABILITIES

Topology is the arrangement or mapping of networked Systems, especially the physical (real) and logical (virtual) interconnections between Systems. A Health Information Exchange (HIE) is a special network system that provides intermediary services, such as directories, registries or translations. Networks exhibit both a physical topology and a logical topology. Figure 3-1 Typical Network Topologies illustrates possible interconnections between systems employing HITSP Specifications.



Figure 3-1 Typical Network Topologies



NOTE: HITSP Interoperability Specifications apply across business boundaries. An associated business agreement defines the business boundaries of EHRs, other systems and HIEs. HITSP ISs apply to information exchanges indicated by the arrows in the figure.

The following matrix portrays which of the typical network topologies in the U.S. are addressed within each Capability. Within each cell, a “Y” indicates that the topology is addressed while an “N” indicates that the topology is not supported/not necessary.



Table 3-1 Information Exchange Topologies Mapped to Capabilities

Information Exchange Topologies	CAP 117	CAP 118	CAP 119	CAP 120	CAP 121	CAP 122	CAP 123	CAP 124	CAP 125	CAP 126	CAP 127	CAP 128	CAP 129	CAP 130	CAP 131	CAP 132	CAP 133	CAP 135	CAP 136	CAP 137	CAP 138	CAP 139	CAP 140	CAP 141	CAP 142	CAP 143
System-to-System (e.g., EHR System-to-Lab System)	Y	Y	Y	Y	Y1	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
System-to-HIE	Y	Y	Y	Y	Y2	Y	Y	N	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HIE-to-HIE	N	N	Y3	Y	Y4	N	Y	N	N	N	Y5	Y	Y		N	N	Y6	N	N	N	N	N	N	N	Y	Y
Portable Media	N	N	Y	Y	Y7	N	N	N	N	N	Y	N8	Y		N	N	Y	N	N	N	N	N	N	N	N	Y

¹ See Capabilities 119, 120, 127, 128, 131: These are all the Capabilities that do document interchange.

² See Capabilities 119, 120, 127, 128, 131: These are all the Capabilities that do document interchange.

³ Partial support. HITSP Construct on Cross-community Patient Discovery needed.

⁴ See Capabilities 119, 120, 127, 128, 131: These are all the Capabilities that do document interchange.

⁵ Partial support. HITSP construct on Cross-community Patient Discovery needed.

⁶ Partial support by HITSP/T33. HITSP construct on Portable Data for Imaging is needed. Gap has been addressed by the IHE PDI Profile

⁷ See Capabilities 119, 120, 127, 128, 131: These are all the Capabilities that do document interchange.

⁸ Partial support by HITSP/T33. HITSP construct on Portable Data for Imaging is needed. Gap has been addressed by the IHE PDI Profile



The following matrix identifies which Service Collaborations can be used in typical topology variants found in the U.S. Within each cell, a “Y” indicates a supported topology and a blank or null cell indicates the topology is not supported or a need for support has not yet been identified within the scope of HITSP activities to date.

Table 3-2 Network Topologies Mapped to Service Collaborations

Topology	SC108 Access Control	SC109 Security Audit	SC110 Patient Identification Management	SC111 Knowledge and Vocabulary	SC112 Healthcare Document Management	SC113 Query for Existing Data	SC114 Administrative Transport to Health Plan	SC115 HL7 Messaging	SC116 Emergency Message Distribution
System- to-System (e.g., EHR System- to-Lab System)	Y	Y	Y	Y	Y	Y	Y	Y	Y
System- to-HIE	Y	Y	Y	Y	Y	Y	Y	Y	Y
HIE-to- HIE	Y	Y	Y	Y	Y	Y		Y	Y
Portable Media	Y	Y			Y				

3.1.3 SERVICE COLLABORATIONS MAPPED TO HITSP CONSTRUCTS

A Service Collaboration is the composition of HITSP Transaction and or Transaction Package constructs into a reusable workflow, primarily at the infrastructure level. Table 3-3 Service Collaborations mapped to HITSP Constructs shows how each Service Collaboration is composed from other constructs. Security and privacy constructs are incorporated into the infrastructure Service Collaborations.

Table 3-3 Service Collaborations Mapped to HITSP Constructs

Service Collaboration Title	Interfaces	SC #	Primary Associated Constructs	Integrated S&P Constructs/SCs
Access Control	Request Access Control	HITSP/SC108	HITSP/TP20, HITSP/TP30, HITSP/C19, HITSP/T17	
Knowledge and Vocabulary	Request Medical Knowledge Respond Medical Knowledge Request Value-Set Respond Value-Set	HITSP/SC111	HITSP/T81, HITSP/T66	HITSP/T17
Patient Identification Management	Request Patient Identification	HITSP/SC110	HITSP/T23, HITSP/TP22, HITSP/T24	HITSP/SC108, HITSP/SC109, HITSP/T17
Query for Existing Data	Request Existing Patient Data Respond Existing Patient Data	HITSP/SC113	HITSP/TP21	HITSP/SC108, HITSP/SC110, HITSP/SC109, HITSP/T17
Security Audit	Send Security Audit Event	HITSP/SC109	HITSP/T15, HITSP/T16	



Service Collaboration Title	Interfaces	SC #	Primary Associated Constructs	Integrated S&P Constructs/SCs
Healthcare Document Management	Send Documents (dynamically choose method) Send Documents Directly Send Documents through email Publish Documents through Media Send Documents through Share Publish Documents through Share Receive Documents (dynamically choose method) Receive Documents Directly Receive Documents through email Consume Documents through Media Receive Documents through Share Consume Documents through Share	HITSP/SC112	HITSP/TP13, HITSP/T31, HITSP/T33, HITSP/T29	HITSP/SC108, HITSP/SC110, HITSP/SC109, HITSP/T17, HITSP/T64
Emergency Message Distribution Element	Send Emergency Message Distribution Element	HITSP/SC116	HITSP/T63	HITSP/SC108, HITSP/SC109, HITSP/T17
Administrative Transport to Health Plan	Request Administrative Response to Health Plan Respond to Administrative Response to Health Plan	HITSP/SC114	HITSP/T85	HITSP/SC108, HITSP/SC110, HITSP/SC109, HITSP/T17
HL7 Messaging	Request HL7 Message Respond to HL7 Message	HITSP/SC115	HL7 v2.x MLLP	HITSP/SC108, HITSP/SC109, HITSP/T17

3.1.4 EHR-CENTRIC CONSTRAINTS AND ASSUMPTIONS FOR ALL CAPABILITIES

The following table defines the constraints, which include assumptions, pre and post conditions and constraints that apply to all Capabilities used by EHR systems within this Interoperability Specification.

Table 3-4 Global Constraints and Assumptions

Constraint	Type of Constraint
Appropriate protocols, patient identification methodology, consent, Security and Privacy procedures are agreed to by all relevant participants in Business Agreements that address relevant statutory, regulatory, and policy requirements for security and privacy. Security and Privacy policies, procedures and practices are implemented to support appropriate levels of consumer/patient privacy and security. Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect. Organizations handling data address statutory, regulatory, and policy requirements (e.g., HIPAA policy compliance) in their policy, agreements, and/or processes	Pre-condition
This specification provides the needed Capabilities that organizations could use to address relevant statutory, regulatory, and policy requirements. These Capabilities use established standards for trust management, risk assessment and cross-jurisdiction information exchange	Assumption
Unless precluded by statute, the consumer shall be informed of the existence and unavailability of the document per statute. Consumer escalation procedures should be available, at minimum, by reference	Assumption
There is no regulatory roadblock to the transmission of personal health information between systems and that all exchanges between systems are properly handled by the appropriate business rules by the system provider	Assumption
Process and places where portable media would be created or read in healthcare delivery organizations is consistent with policy restrictions (e.g., to protect from malicious data or unauthorized release of Individual Identifiable Health Information). It is assumed the import/export to and from portable media to be restricted to specific locations and/or staff	Assumption



Constraint	Type of Constraint
Network infrastructures enable secure, appropriate, and accurate information exchange across data sources and systems to view the data. This includes, but is not limited to: methods to: identify and authenticate users; identify and determine providers of care; enforce data access authorization policies correctly match consumers/patients across systems. To identify and determine health insurers; identify and determine pharmacy benefits managers (NOTE: Pharmacy benefit information obtained through NCPDP transactions); identify data sources including but not limited to provider EHR systems	Pre-condition
Support the technical measures to ensure Security and Privacy of consumer/patient health information	Pre-condition
Support the technical measures to ensure Security and Privacy of consumer/patient health information	Pre-condition
Security and Privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient privacy and security Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition
A user's access or disclosure of PHR information is successfully logged	Post-condition
Access and disclosure logs for PHR are available for Consumer review	Post-condition
Health Information Exchange (HIE) can serve as intermediary for data in many implementation variants	Assumption
Appropriate patient consent is obtained and recorded for treatment, payment and healthcare operations	Pre-condition
Either (1) Providers can't limit a consumer's access to clinical information directly related to that consumer, or; (2) The specification, interoperability requirements, and policy considerations of such restrictions are outside the scope of this document	Assumption
A user-friendly error message is displayed in the event of retrieval failure	Post-condition
Policies exist authorizing registries to exchange information	Pre-condition
Augmentation of electronic data with manual input or query to other systems requires appropriate authorizations	Assumption

3.2 HITSP/CAP117 – COMMUNICATE AMBULATORY AND LONG TERM CARE PRESCRIPTION SPECIFICATION

3.2.1 OVERVIEW

This Capability addresses interoperability requirements that support electronic prescribing in the ambulatory and long term care environment. The Capability supports:

1. Transmittal of new or modified prescriptions
2. Transmittal of prescription refills and renewals
3. Communication of dispensing status
4. Access to formulary and benefit information

3.2.2 DESIGN SPECIFICATION

3.2.2.1 INTERACTING SYSTEMS

Table 3-5 Interacting Systems

Interacting Systems
Electronic Health Record (EHR)
Electronic Health Record (EHR) Hospital & EHR LTC
Pharmacy Systems
Pharmacy Systems – Hospital and Pharmacy Systems – External
Clinical Decision Support and Other Clinical or Admin Data Sources
Health Care Entities (for LTC)
Health Information Exchange (HIE)
PBM/Payers System



3.2.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-6 Constraints and Assumptions

Constraint	Type of Constraint
Health Information Exchange (HIE) can serve as intermediary for data in many implementation variants. The various alternative options are not shown	Assumption
Patient consent for treatment, payment and healthcare operations	Pre-condition
Entities have pre-established a business relationship to exchange information	Pre-condition
Authentication service to authenticate requestors and/or data submissions from various locations	Pre-condition
Security and privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient security and privacy	Pre-condition
Medication has been dispensed to a patient, or the reason why it was not is provided to the prescribing clinician	Post-condition

3.2.2.3 LIST OF CONSTRUCTS

Table 3-7 List of Constructs

Construct	Description
HITSP/SC114 – Administrative Transport to Health Plan	The HITSP Administrative Transport to Health Plan Service Collaboration provides the transport mechanism for conducting administrative transactions with health plans
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/T42 – Medication Dispensing Status	This HITSP Medication Dispensing Status Transaction provides a medication prescriber the dispensing status of an ordered prescription (dispensed, partially dispensed, not dispensed). This Transaction is used for original prescriptions, refills and renewals. It uses the NCPDP SCRIPT Standard Implementation Guide Version 10.1 RXFILL message to provide the status
HITSP/TP43 – Medication Orders	The HITSP Medication Orders Transaction Package is used to define transactions between prescribers (who write prescriptions) and dispensers (who fill prescriptions). It is used for new prescriptions, refill requests, prescription change requests and prescription cancellations. Orders/prescriptions may occur in many different real world settings, such as inpatient, long term care and ambulatory settings
HITSP/TP46 – Medication Formulary and Benefits Information	The HITSP Medication Formulary and Benefits Information Transaction Package addresses two tasks. The first task is to perform an eligibility check for a specific patient's pharmacy benefits. The second task is to obtain the medication formulary and benefit information

3.2.2.4 SPECIFIED INTERFACES

Table 3-8 HITSP/CAP117 – Communicate Ambulatory and Long Term Care Prescription Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ⁹
Medication Order Prescriber	1	R	Medication Order Request (HITSP/TP43)	CAP117-[201]
Medication Dispensing Status Receiver	2	O*	Medication Dispensing Status Query (HITSP/T42)	R
Medication Order Filler	3	R	Medication Order Request (HITSP/TP43)	R
Eligibility Information Receiver	4	R	Patient Generic Health Plan Eligibility Verification (HITSP/T40)	R

⁹ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



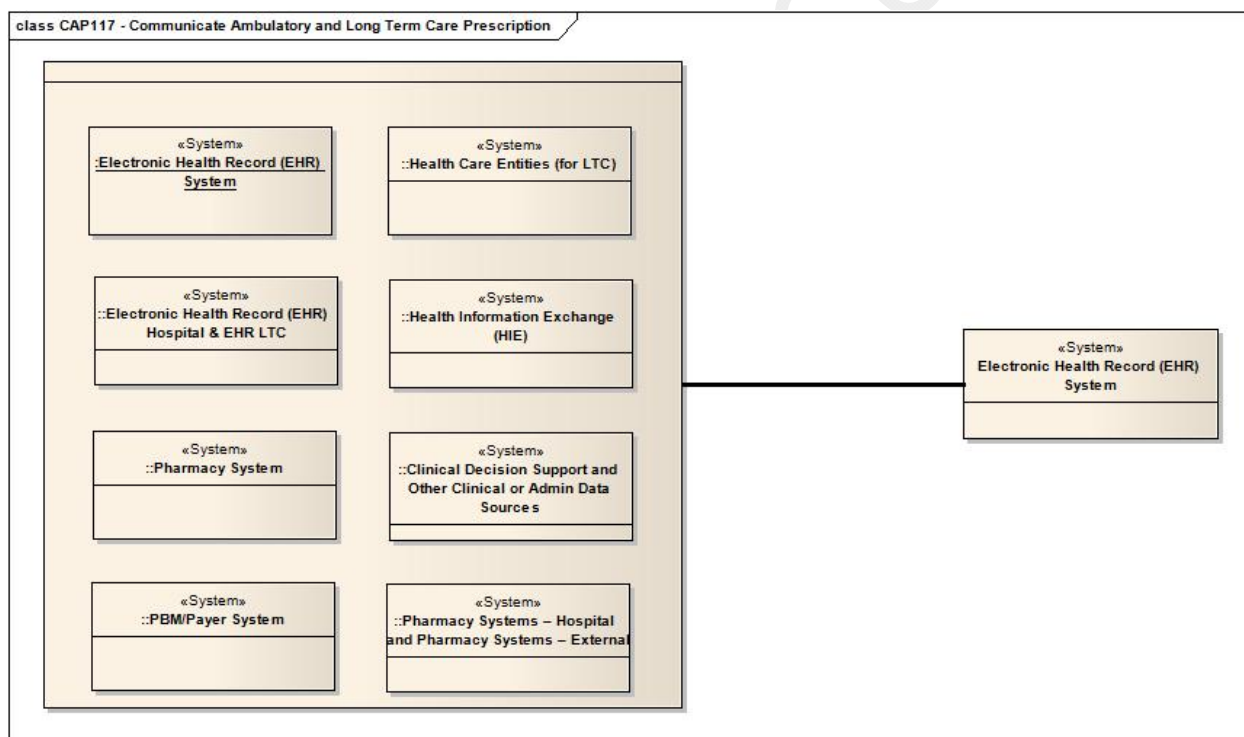
Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ⁹
Medication Formulary and Benefits Retriever	5	R	Medication Formulary and Benefits Request (HITSP/TP46)	R
Request Administrative Transport to Health Plan	6	R	Administrative Transport (HITSP/SC114)	R
Respond to Administrative Request to Health Plan	7	R	Administrative Transport (HITSP/SC114)	R

Table 3-9 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP117-[201]	The NCPDP transaction method shall be used

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-2 HITSP/CAP117 – Communicate Ambulatory and Long Term Care Prescription Visual Overview



3.2.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.



3.3 HITSP/CAP118 – COMMUNICATE HOSPITAL PRESCRIPTION SPECIFICATION

3.3.1 OVERVIEW

This Capability addresses interoperability requirements that support electronic prescribing for inpatient orders that can occur within an organization or between organizations. The Capability supports the transmittal of a new or modified prescription from a Hospital to an internal or external pharmacy. It also includes the optionality to access formulary and benefit information.

Note that support for the formal process of medication reconciliation can be addressed when this Capability is associated with HITSP/CAP119 Communicate Structured Document (medications and allergies).

3.3.2 DESIGN SPECIFICATION

3.3.2.1 INTERACTING SYSTEMS

Table 3-10 Interacting Systems

Interacting Systems
Electronic Health Record (EHR)
Electronic Health Record (EHR) – Hospital
Electronic Health Record (EHR) Hospital and EHR LTC
Pharmacy Systems
Pharmacy Systems – Hospital and Pharmacy Systems – External
Clinical Decision Support and Other Clinical or Admin Data Sources
Health Information Exchange (HIE)
PBM/Payers System

3.3.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-11 Constraints and Assumptions

Constraint	Type of Constraint
Health Information Exchange (HIE) can serve as intermediary for data in many implementation variants. The various alternative options are not shown	Assumption
Patient consent for treatment, payment and healthcare operations	Pre-condition
Entities have pre-established a business relationship to exchange information	Pre-condition
Authentication service to authenticate requestors and/or data submissions from various locations	Pre-condition
Security and privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient security and privacy	Pre-condition
Medication has been dispensed to a patient, or the reason why it was not is provided to the prescribing clinician	Post-condition

3.3.2.3 LIST OF CONSTRUCTS

Table 3-12 List of Constructs

Construct	Description
HITSP/TP43 - Medication Orders	The HITSP Medication Orders Transaction Package is used to define transactions between prescribers (who write prescriptions) and dispensers (who fill prescriptions). It is used for new prescriptions, refill requests, prescription change requests and prescription cancellations. Orders/prescriptions may occur in many different real world settings, such as inpatient, long term care and ambulatory settings



Construct	Description
HITSP/T42 - Medication Dispensing Status	The HITSP Medication Dispensing Status Transaction provides a medication prescriber the dispensing status of an ordered prescription (dispensed, partially dispensed, not dispensed). This Transaction is used for original prescriptions, refills and renewals. It uses the NCPDP SCRIPT Standard Implementation Guide Version 10.1 RXFILL message to provide the status
HITSP/T40 – Patient Health Plan Eligibility Verification	The HITSP 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/TP46 – Medication Formulary and Benefits Information	The HITSP Medication Formulary and Benefits Information Transaction Package addresses two tasks. The first task is to perform an eligibility check for a specific patient's pharmacy benefits. The second task is to obtain the medication formulary and benefit information
HITSP/SC114 – Administrative Transport to Health Plan	The HITSP Administrative Transport to Health Plan Service Collaboration provides the transport mechanism for conducting administrative transactions with health plans
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs

3.3.2.4 SPECIFIED INTERFACES

Table 3-13 HITSP/CAP118 – Communicate Hospital Prescription Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ¹⁰
Medication Order Prescriber	1	R	Medication Order Request (HITSP/TP43)	CAP118-[201]
Medication Dispensing Status Receiver	2	R	Medication Dispensing Status Query (HITSP/T42)	R
Medication Order Filler	3	R	Medication Order Request (HITSP/TP43)	R
Eligibility Information Receiver	4	R	Patient Generic Health Plan Eligibility Verification (HITSP/T40)	R
Medication Formulary and Benefits Retriever	5	R	Medication Formulary and Benefits Request (HITSP/TP46)	R
Request Administrative Transport to Health Plan	6	R	Administrative Transport to Health Plan (HITSP/SC114)	R
Respond to Administrative Request to Health Plan	7	R	Administrative Transport to Health Plan (HITSP/SC114)	R
Request HL7 Message	8	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	9	R	HL7 Messaging (HITSP/SC115)	R

Table 3-14 Interface Conditions and T/TP/SC/Content Optionality

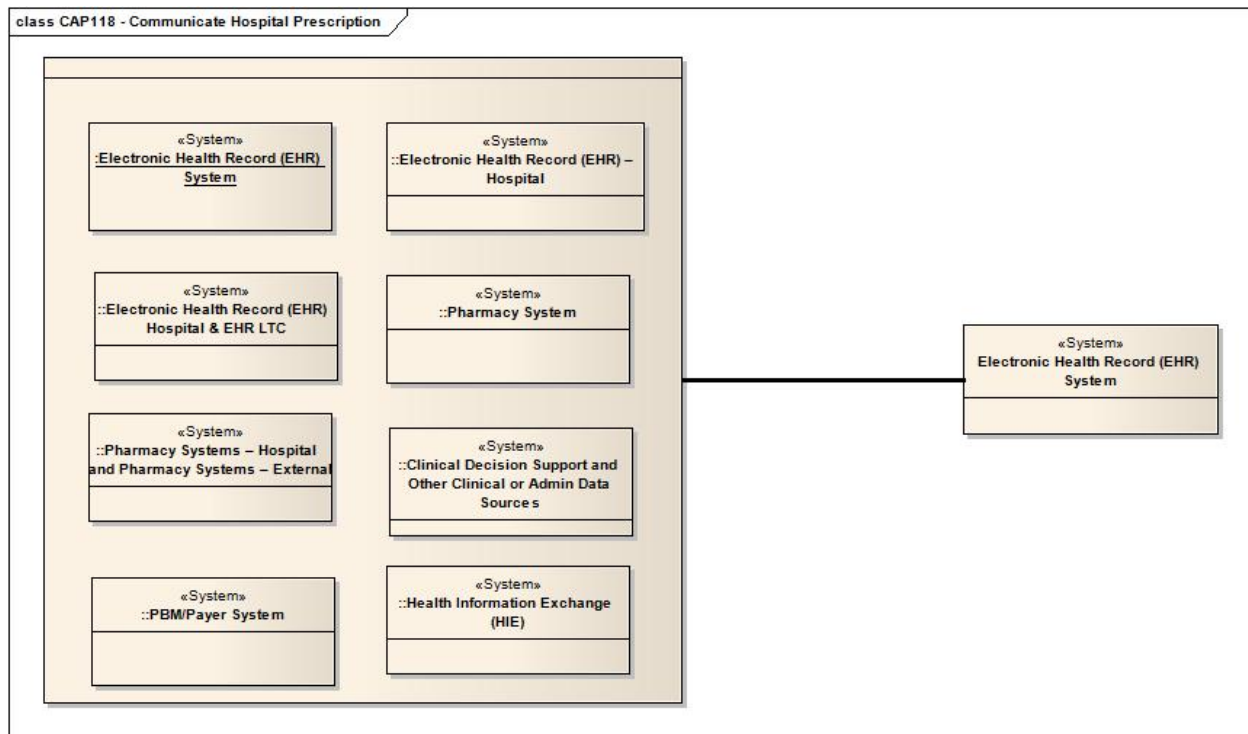
Condition Code	Condition Description
CAP118-[201]	The HL7 transaction method shall be used within the hospital, and the NCPDP transaction method shall be used when communicating with external systems

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

¹⁰ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-3 HITSP/CAP118 – Communicate Hospital Prescription Visual Overview



3.3.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.4 HITSP/CAP119 – COMMUNICATE STRUCTURED DOCUMENT SPECIFICATION

This Capability addresses interoperability requirements that support the communication of structured health data related to a patient in a context set by the source of the document who is attesting to its content. Several document content subsets, structured according to the HL7 CDA standard, are supported by this Capability. The following are examples of the type of structured data that may be used:

- Continuity of Care Document (CCD)
- Emergency Department Encounter Summary
- Discharge Summary (In-patient encounter and/or episodes of care)
- Referral Summary Ambulatory encounter and/or episodes of care
- Consultation Notes
- History and Physical
- Personal Health Device Monitoring Document
- Healthcare Associated Infection (HAI) Report Document

Document creators shall support a number of the HITSP specified coded terminologies as defined by specific content subsets specified in this Capability.



3.4.1 DESIGN SPECIFICATION

3.4.1.1 INTERACTING SYSTEMS

Table 3-15 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) Systems
Personal Health Record (PHR) Systems
Public Health Information System
Health Information Exchange (HIE) / Regional Health Information Organizations (RHIO)
Laboratory Information Systems
Emergency Communications System
Immunization Information System
Clinical Decision Support System
Quality Measure Processing Entity

3.4.1.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-16 Constraints and Assumptions

Constraint	Type of Constraint
Systems store patient data as an encounter. A patient has one to many encounters linked into episodes of care. Each encounter holds documents. Each document holds data. This is analogous to each encounter being a report holding many paper document sections and each document section containing many data elements. An episode of care contains many reports on the same incident. The file folder also contains incident information on the same topic (e.g., patient). We assume data are communicated in both document and message forms	Assumption
Ability to identify and request corrections to errors is available	Pre-condition
Ability to apply notes, corrections and comments on original entries is available	Pre-condition
Appropriate standards are developed, approved, and widely adopted supporting data content and structure, allowing universal access by compliant systems	Pre-condition
Core datasets are defined and adhered to	Pre-condition
Method to query other organizations for data and matching to the consumer is available	Pre-condition
If physical media is used for the transport, when the media is read the consent directives stored on the portable media need to be enforced by the portable media importer. The validity of these content directives may need to be checked	Post-condition

3.4.1.3 LIST OF CONSTRUCTS

Table 3-17 List of Constructs

Construct	Description
HITSP/C28 – Emergency Care Summary Document Using IHE Emergency Department Encounter Summary (EDES)	The HITSP Emergency Care Summary Document Using IHE Emergency Department Encounter Summary (EDES) Component is the collection of data from multiple sources (such as physicians, nurses, technologists, etc.) recording the assessments and care delivered by the ED team in response to an ED visit. It is a summary of the patient's current health status and care tendered in the ED between arrival and ED departure. This Component specifies the use of the IHE Emergency Department Encounter Summary (EDES), Technical Framework Supplement, Volume I, Revision 3.0, 2007-2008
HITSP/C32 – Summary Documents Using HL7 Continuity of Care Document (CCD)	The HITSP 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 enable interoperability between participating systems such as Personal Health Record Systems (PHRs), Electronic Health Record Systems (EHRs), Practice Management Applications and others



Construct	Description
HITSP/C39 – Encounter Message	The HITSP Encounter Message Component supports the process of sending patient encounter data (excluding laboratory, radiology) from a Biosurveillance Message Sender to a Biosurveillance Message Receiver
HITSP/C48 – Encounter Document Using IHE Medical Summary (XDS-MS)	The HITSP 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/C74 – Remote Monitoring Observation Document	The HITSP 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/C75 – Healthcare Associated Infection (HAI) Report	The HITSP Healthcare Associated Infection (HAI) Report Component specifies a standard for electronic submission of Healthcare Associated Infection (HAI) Reports to the National Healthcare Safety Network (NHSN) of the Centers for Disease Control and Prevention (CDC). HITSP has adopted the HL7 Implementation Guide for CDA Release 2: NHSN Healthcare Associated Infection (HAI) Reports, Release 1 for this construct
HITSP/C78 – Immunization Document	The HITSP 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/C80 – Clinical Document and Message Terminology	The HITSP Clinical Document and Message Terminology Component defines the vocabularies and terminologies utilized by HITSP specifications for Clinical Documents and Messages used to support the interoperable transmission of information
HITSP/C83 – CDA Content Modules	The HITSP CDA Content Modules Component defines the content modules for document based HITSP constructs utilizing clinical information. These Content modules are based on IHE PCC Technical Framework Volume II, Release 4. That technical framework contains specifications for document sections that are consistent with all implementation guides for clinical documents currently selected for HITSP constructs
HITSP/C84 – Consult and History & Physical Note	The HITSP 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/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)

3.4.1.4 SPECIFIED INTERFACES

Table 3-18 HITSP/CAP119 – Communicate Structured Document Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ¹¹
Content Creator	1	R	Creator-Registration Subset (see Section 3.4.1.5.1)(HITSP/C32)	CAP119-[201]
			Creator-Registration-Coded Subset (see Section 3.4.1.5.2)(HITSP/C32)	CAP119-[201]
			Creator-Medication and Immunization History Subset (see Section 3.4.1.5.3)(HITSP/C32)	CAP119-[201]

¹¹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ¹¹
			Creator-Medication and Immunization History – Coded Subset (see Section 3.4.1.5.4)(HITSP/C32)	CAP119-[201]
			Creator-Conditions and Allergy Subset (see Section 3.4.1.5.5)(HITSP/C32)	CAP119-[201]
			Creator-Conditions and Allergy -Coded Subset (see Section 3.4.1.5.6)(HITSP/C32)	CAP119-[201]
			Creator-Laboratory Section Subset (see Section 3.4.1.5.7)(HITSP/C32)	CAP119-[201]
			Creator-Laboratory Section -Coded Subset (see Section 3.4.1.5.8)(HITSP/C32)	CAP119-[201]
			Creator-Medication and Allergies Subset (see Section 3.4.1.5.9) (HITSP/C32)	CAP119-[201]
			Encounter Document Using IHE Medical Summary (XDS-MS) Component (HITSP/C48)	CAP119 -[201]
			Structured Family History Creator-Structured Family History subset (see Section 3.4.1.5.10)(HITSP/C48)	CAP119-[201]
			Emergency Department Encounter (HITSP/C28)	CAP119-[201], [202]
			Consult and History & Physical Note (HITSP/C84)	CAP119-[201]
			Structured Family History – Content Creator (see Section 3.4.1.5.11)(HITSP/C84)	CAP119-[201]
			Remote Monitoring Observation Document (HITSP/C74)	CAP119-[201]
			Adverse Event Reports: CDC – Healthcare Associated Infection Reporting (HITSP/C75)	CAP119-[201]
			Clinical Document and Message Terminology (HITSP/C80)	R
			CDA Content Modules (HITSP/C83)	R
Content Consumer	2	R	Consumer-Document Display(HITSP/C32)	R
			Consumer-Document Import (HITSP/C32)	CAP119-[203]
			Consumer-Registration Discrete Data Import (HITSP/C32)	CAP119-[203]
			Consumer-Medication and Immunization History Discrete Data Import Subset (see Section 3.4.1.5.12)(HITSP/C32)	O
			Consumer-Conditions and Allergy Discrete Data Import Subset (see Section 3.4.1.5.13)(HITSP/C32)	O
			Consumer-Medication and Allergies Information Import Subset (see Section 3.4.1.5.14)(HITSP/C32)	O
			Structured Family History Consumer-Document Import Subset (see Section 3.4.1.5.15)(HITSP/C32)	O
			Structured Family History Consumer-Document Discrete Data Import (see Section 3.4.1.5.16)(HITSP/C32)	O
			Consumer-Document Display (HITSP/C28)	R
			Consumer-Document Import (HITSP/C28)	CAP119-[203]
			Consumer-Document Discrete Data Import (HITSP/C28)	CAP119-[203]
			Consumer-Document Display (HITSP/C48)	R
			Consumer-Document Import (HITSP/C48)	CAP119-[203]
			Consumer-Document Discrete Data Import (HITSP/C48)	CAP119-[203]
			Structured Family History Consumer-Document Import (see Section 3.4.1.5.17)(HITSP/C48)	O



Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ¹¹
			Structured Family History Consumer-Document Discrete Data Import Subset (see Section 3.4.1.5.18)(HITSP/C48)	O
			Consumer-Document Display (HITSP/C84)	R
			Consumer-Document Import (HITSP/C84)	CAP119-[203]
			Consumer-Document Discrete Data Import (HITSP/C84)	CAP119-[203]
			Structured Family History Consumer-Document Import Subset (see Section 3.4.1.5.19)(HITSP/C84)	O
			Structured Family History Consumer-Document Discrete Data Import Subset (see Section 3.4.1.5.20)(HITSP/C84)	O
			Consumer-Document Display (HITSP/C74)	R
			Consumer-Document Import (HITSP/C74)	CAP119-[203]
			Consumer-Document Discrete Data Import (HITSP/C74)	CAP119-[203]
			Consumer-Document Display (HITSP/C78)	R
			Consumer-Document Import (HITSP/C78)	CAP119-[203]
			Consumer-Document Discrete Data Import (HITSP/C78)	CAP119-[203]
			Clinical Document and Message Terminology(HITSP/C80)	R
			CDA Content Modules(HITSP/C83)	R
Send Documents	3	CAP119-[101], [102]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	4	CAP119-[101]	Healthcare Document Management (HITSP/SC112)	R

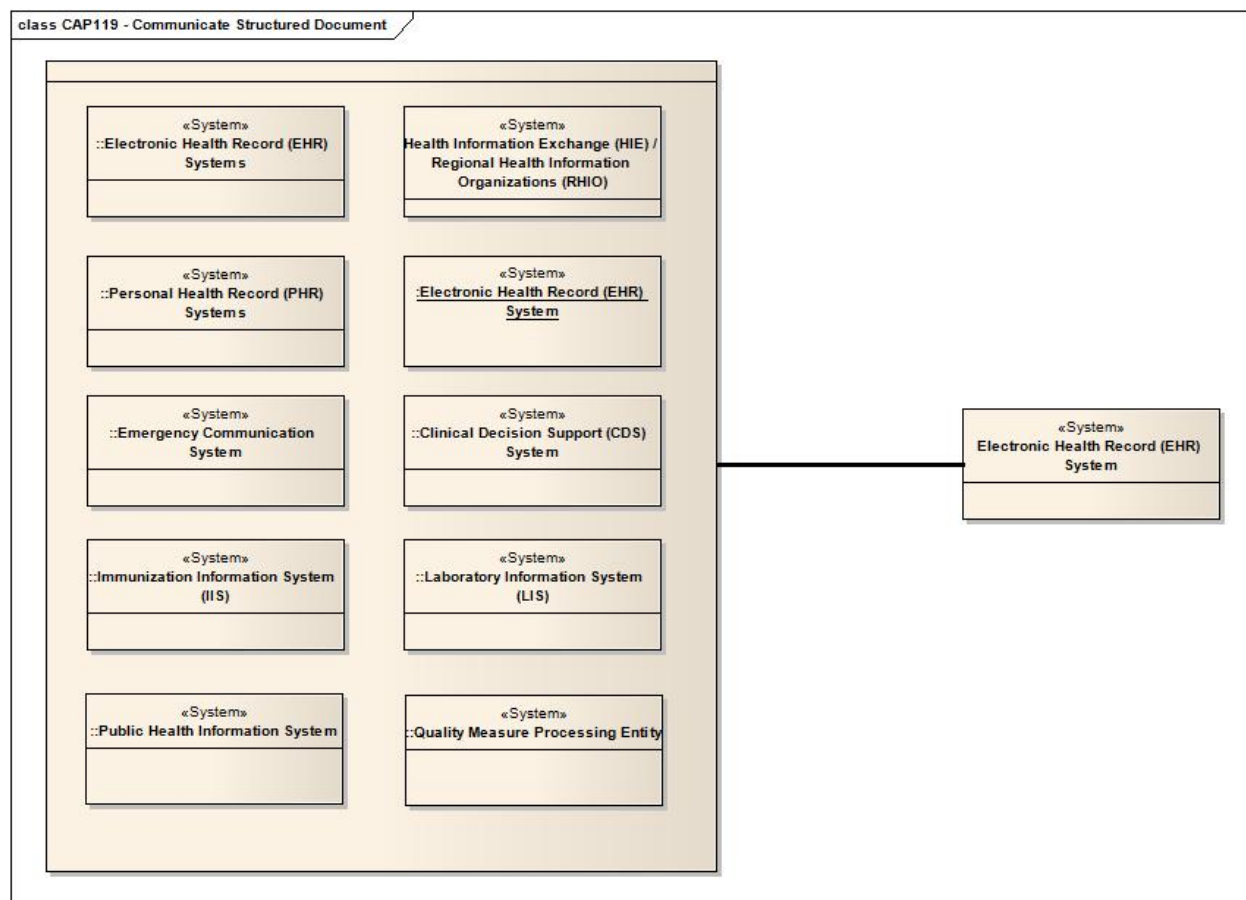
Table 3-19 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP119-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (see Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP119-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management
CAP119-[201]	Shall support either at least one of the subsets of the HITSP/C32 – Summary Documents Using HL7 Continuity of Care Document (CCD), HITSP/C37 – Lab Report Document, the entire document or at least one of the subsets of HITSP/C48 – Encounter Document Using IHE Medical Summary (XDS-MS), HITSP/C28 – Emergency Department Encounter, the entire document or at least one of the subsets of HITSP/C84 – Consult and History & Physical Note, HITSP/C74 – Remote Monitoring Observation Document, HITSP/C75 – Adverse Event Reports: CDC – Healthcare Associated Infection Reporting Document, or any combination of the these constructs
CAP119-[202]	Shall be supported if the EHR is used by an emergency department
CAP119-[203]	<p>The Content Consumer should minimally Display the content received in the specified CDA document (i.e. HITSP/C32, HITSP/C28, HITSP/C48, HITSP/C74, HITSP/C78, and HITSP/C84). Optionally, the Content Consumer may support one or both of the following functions:</p> <ul style="list-style-type: none"> • Consumer-Document Import [Requires the Content Consumer to have the ability to import the CDA document into the patient record as a whole and display it as requested] • Consumer-Discrete Data Import [Requires the Content Consumer to have the ability to import the discrete data from one or more of the data section entries in a structured form into the patient record. Coded values shall be maintained] <p>The specific data sections which have been described in HITSP documents which can be optionally supported have been identified as Discrete Data Import subsets</p>



The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-4 HITSP/CAP119 – Communicate Structured Document Visual Overview



3.4.1.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.4.1.5.1 HITSP/C32 “Creator-Registration Subset”

This subset impacts the content of the HITSP/C32 Summary Document Using HL7 Continuity of Care Document (CCD) document produced by a Content Creator Interface. It requires the Content Creator to have the **ability to create the content** of the following content modules for the purpose of exchange, with variants as specified in the HITSP/C32 construct:



Table 3-20 Creator Registration Subset Content Modules

Content Modules	Optionality ¹²
Advance Directive	R2
Comments	R2
Healthcare Provider	R2
Information Source	R2
Insurance Provider	R2
Language Spoken	R2
Person Information	R
Pregnancy	R2
Support	R2

Additional HITSP/C32 content modules may be present, but are not required in this subset. Within the context of this subset, the content consumer is not required to recognize or process such "additional" content modules.

The Support content module includes emergency contact information when available.

The type of payer and type of payer entries contain the concepts but without the HITSP/C32 specified code set.

3.4.1.5.2 HITSP/C32 "Creator-Registration-Coded Subset"

This subset is identical to the Creator-Registration Subset but requires the creation of type of payer and type of payer entries with the HITSP/C32 specified code set.

3.4.1.5.3 HITSP/C32 "Creator-Medication and Immunization History Subset"

This subset impacts the content of the HITSP/C32 Summary Document Using HL7 Continuity of Care Document (CCD) document produced by a Content Creator Interface. It requires the Content Creator to have the ability to create the content of the following content module for the purpose of exchange, with variants as specified in the HITSP/C32 construct.

Table 3-21 Creator Medication and Immunization History Subset Content Modules

Content Modules	Optionality ¹³
Comments	R2
Healthcare Provider	R2
Immunization	R2
Information Source	R2
Medications – Prescription and Non-Prescription	R2
Person Information	R

Additional HITSP/C32 content modules may be present, but are not required in this subset. Within the context of this subset, the content consumer is not required to recognize or process such "additional" content modules.

The Medication entry may contain the concepts but without an associated code.

¹² Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.

¹³ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



3.4.1.5.4 HITSP/C32 “Creator-Medication and Immunization History-Coded Subset”

This subset is identical to the Creator-Medication Subset but requires the creation of medication entries with the HITSP/C32 specified code sets.

3.4.1.5.5 HITSP/C32 “Creator-Conditions and Allergy Subset”

This subset impacts the content of the HITSP/C32 Summary Documents Using HL7 Continuity of Care Document (CCD) document produced by a Content Creator Interface. It requires the Content Creator to have the ability to create the content for the purpose of exchange as specified in the HITSP/C32 construct.

Table 3-22 Creator Conditions and Allergy Subset Content Modules

Content Modules	Optionality ¹⁴
Allergies and Drug Sensitivity	R2
Comments	R2
Condition	R2
Healthcare Provider	R2
Information Source	R2
Person Information	R

Additional HITSP/C32 content modules may be present, but are not required in this subset. Within the context of this subset, the content consumer is not required to recognize or process such “additional” content modules.

The Condition and Allergy entries contain the concepts but without the HITSP/C32 specified code set.

3.4.1.5.6 HITSP/C32 “Creator-Conditions and Allergy-Coded Subset”

This subset is identical to the Creator-Registration Subset but requires the creation of conditions and allergies entries with the HITSP/C32 specified code set.

3.4.1.5.7 HITSP/C32 “Creator-Laboratory Section Subset”

This subset impacts the content of the HITSP/C32 Summary Documents Using HL7 Continuity of Care Document (CCD) document produced by a Content Creator Interface. It requires the Content Creator to have the ability to create the content for the purpose of exchange as specified in the HITSP/C32 construct.

Table 3-23 Creator Laboratory Subset Content Modules

Content Modules	Optionality ¹⁵
Comments	R2
Healthcare Provider	R2
Information Source	R2
Person Information	R
Result	R2

¹⁴ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.

¹⁵ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Additional HITSP/C32 content modules may be present, but are not required in this subset. Within the context of this subset, the content consumer is not required to recognize or process such "additional" content modules.

The Result entries contain the concepts but without the HITSP/C32 specified code set.

3.4.1.5.8 HITSP/C32 "Creator-Laboratory Section-Coded Subset"

This subset is identical to the Creator-Laboratory Section Subset but requires the creation of laboratory results entries with the HITSP/C32 specified code set.

3.4.1.5.9 HITSP/C32 "Creator-Medication and Allergies Information Coded Subset"

This subset impacts the content of the HITSP/C32 – Summary Document Using HL7 Continuity of Care Document (CCD) Component produced by a Content Creator Interface. It requires the Content Creator to have the ability to create the content of the following content modules with the HITSP specified code set for the purpose of exchange, with variants as specified in the HITSP/C32 construct.

Table 3-24 Creator Medication and Allergies Information Subset Content Modules

Content Modules	Optionality ¹⁶
Person Information	R
Medications – Prescription and Non-Prescription	R
Allergies and Drug Sensitivity	R
Healthcare Provider	R2
Insurance Provider	R2
Information Source	R2
Conditions	R2
Comments	R2

Additional HITSP/C32 content modules may be present, but are not required in this subset. Within the context of this subset, the content consumer is not required to recognize or process such "additional" content modules.

3.4.1.5.10 HITSP/C48 "Structured Family History Creator-Structured Family History Subset"

These documents **shall** contain data sections conforming to the requirements specified for the following CDA content modules in HITSP/C83 CDA Content Modules.

Table 3-25 Structured Family History Creator-Structured Family History Subset Content Modules

Content Modules	Optionality ¹⁷
Family History	R
Allergies and Adverse Reactions	R
Active Problems	R
History of Past Illness	R
Diagnostic Results	R

¹⁶ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.

¹⁷ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



3.4.1.5.11 HITSP/C84 “Structured Family History – Content Creator Subset”

These documents **shall** contain data sections conforming to the requirements specified for the following CDA content modules in HITSP/C83 CDA Content Modules.

Table 3-26 Structured Family History – Content Creator Subset Content Modules

Content Modules	Optionality ¹⁸
Family History	R
Allergies and Adverse Reactions	R
Active Problems	R
History of Past Illness	R
Diagnostic Results	R

3.4.1.5.12 HITSP/C32 “Consumer-Medication and Immunization History Discrete Data Import Subset”

This subset impacts the import of the HITSP/C32 Summary Documents Using HL7 Continuity of Care Document (CCD) document processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import the discrete data from one or more of the medication and immunization history entries in a structured form into the patient record. Coded values shall be maintained.

3.4.1.5.13 HITSP/C32 “Consumer-Conditions and Allergy Discrete Data Import Subset”

This subset impacts the import of the HITSP/C32 Summary Documents using HL7 Continuity of Care Document (CCD) document processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import the discrete data from one or more of the conditions and allergy entries in a structured form into the patient record. Coded values shall be maintained.

3.4.1.5.14 HITSP/C32 “Consumer-Medication and Allergies Import Subset”

This subset impacts the import of Documents processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import into the patient record the medication and allergies modules of HITSP/C32 as a whole and display it as requested.

3.4.1.5.15 HITSP/C32 “Structured Family History Consumer-Document Import Subset”

This subset impacts the import of Documents processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import into patient record the HITSP/C32 containing structured family history as a whole and display it as requested.

3.4.1.5.16 HITSP/C32 “Structured Family History Consumer-Document Discrete Data Import Subset”

This subset impacts the import of the HITSP/C32 Summary Documents Using HL7 Continuity of Care Document (CCD) document processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import the discrete data from one or more of the structured family history entries in a structured form into the patient record. Coded values shall be maintained.

3.4.1.5.17 HITSP/C48 “Structured Family History Consumer-Document Import Subset”

This subset impacts the import of Documents processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import into patient record the HITSP/C48 Encounter Document Using IHE Medical Summary (XDS-MS) containing structured family history as a whole and display it as requested.

¹⁸ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



3.4.1.5.18 HITSP/C48 “Structured Family History Consumer-Document Discrete Data Import Subset”

This subset impacts the import of the HITSP/C48 – Encounter Document Using IHE Medical Summary (XDS-MS) document processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import the discrete data from one or more of the structured family history entries in a structured form into the patient record. Coded values shall be maintained.

3.4.1.5.19 HITSP/C84 “Structured Family History Consumer-Document Import Subset”

This subset impacts the import of Documents processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import into patient record the HITSP/C84 Consult and History & Physical Note containing structured family history as a whole and display it as requested.

3.4.1.5.20 HITSP/C84 “Structured Family History Consumer-Document Discrete Data Import Subset”

This subset impacts the import of the HITSP/C84 Consult and History & Physical Note document processed by a Content Consumer Interface. It requires the Document Consumer to have the ability to import the discrete data from one or more of the structured family history entries in a structured form into the patient record. Coded values shall be maintained.

Document Consumer only to have the ability to display HITSP/C74 Remote Monitoring Observation Document, as requested (it may not be able to locally import it in the patient record).

3.5 HITSP/CAP120 – COMMUNICATE UNSTRUCTURED DOCUMENT SPECIFICATION

3.5.1 OVERVIEW

This Capability addresses interoperability requirements that support the communication of a set of unstructured health data related to a patient in a context set by the source of the document who is attesting to its content.

Two types of specific unstructured content are supported, both with a structured CDA header:

1. PDF-A supporting long-term archival
2. UTF-8 text

3.5.2 DESIGN SPECIFICATION

3.5.2.1 INTERACTING SYSTEMS

Table 3-27 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) Systems
Personal Health Record (PHR) Systems
Patient Identifier Service
Public Health Information System
Health Information Exchange (HIE)
Immunization Information System (IIS)
Laboratory Information Systems
Emergency Communications System

3.5.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.



Table 3-28 Constraints and Assumptions

Constraint	Type of Constraint
Systems store patient data as an encounter. A patient has one to many encounters linked into episodes of care. Each encounter holds documents. Each document holds data. This is analogous to each encounter being a report holding many paper document sections and each document section containing many data pieces. An episode of care contains many reports on the same incident. The file folder also contains incident information on the same topic (e.g., patient). We assume data are communicated in both document and message forms	Assumption
Ability to identify and request corrections to errors is available	Pre-condition
Ability to apply notes, corrections and comments on original entries is available	Pre-condition
Appropriate standards are developed, approved, and widely adopted supporting data content and structure, allowing universal access by compliant systems	Pre-condition
Core datasets are defined and adhered to	Pre-condition
Method to query other organizations for data and matching to the consumer is available	Pre-condition
If physical media is used for the transport, when the media is read the consent directives stored on the portable media need to be enforced by the portable media importer. The validity of these content directives may need to be checked	Post-condition

3.5.2.3 LIST OF CONSTRUCTS

Table 3-29 List of Constructs

Construct	Description
HITSP/C62 – Unstructured Document	The HITSP 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)
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)

3.5.2.4 SPECIFIED INTERFACES

Table 3-30 HITSP/CAP120 – Communicate Unstructured Document Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ¹⁹
Content Creator	1	R	Unstructured Document(HITSP/C62)	R
Content Consumer	2	R	Consumer-Document Display (HITSP/C62)	R
			Consumer-Document Import (HITSP/C62)	CAP120-[201]
Send Documents	3	CAP120-[101],[102]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	4	CAP120-[101]	Healthcare Document Management (HITSP/SC112)	R

Table 3-31 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP120-[101]	An implementation shall choose amongst one of the interfaces defined HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP120-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management

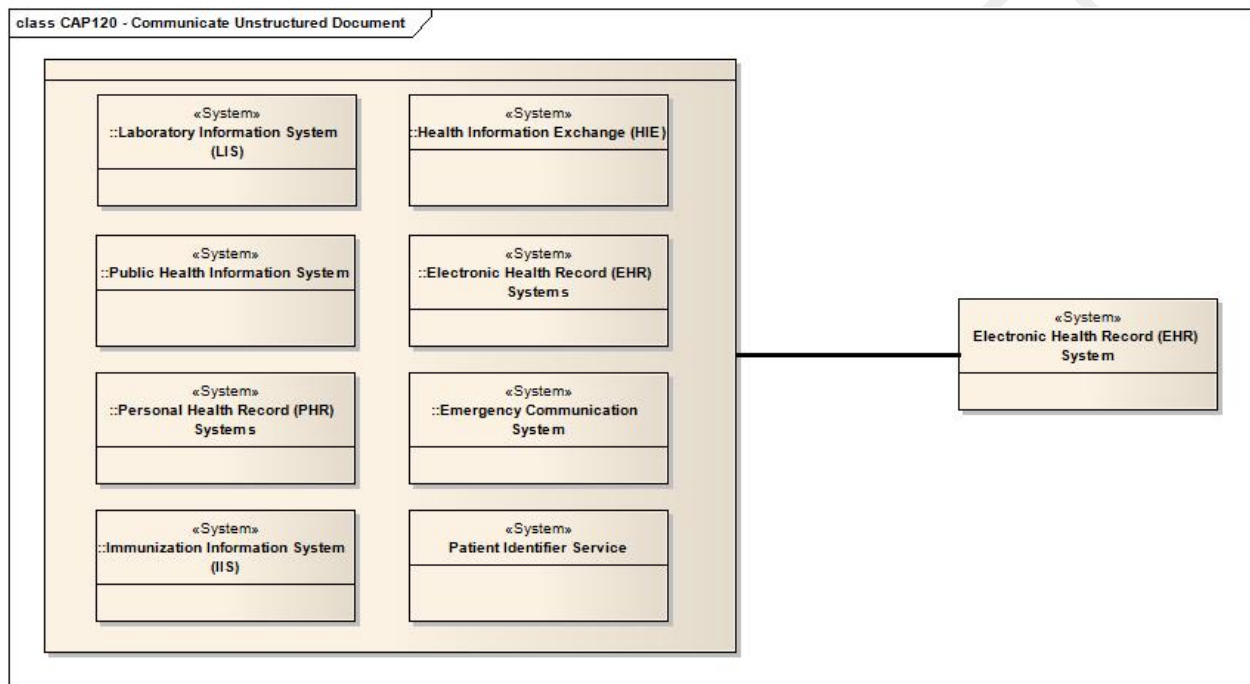
¹⁹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Condition Code	Condition Description
CAP120-[201]	<p>The Content Consumer should minimally Display the content received in the specified CDA document (i.e. HITSP/C62). Optionally, the Content Consumer may the following function:</p> <ul style="list-style-type: none"> Consumer-Document Import [Requires the Content Consumer to have the ability to import the CDA document into the patient record as a whole and display it as requested]

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-5 HITSP/CAP120 – Communicate Unstructured Document Visual Overview



3.5.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.6 HITSP/CAP121 – COMMUNICATE CLINICAL REFERRAL REQUEST SPECIFICATION

3.6.1 OVERVIEW

This Capability addresses interoperability requirements that support provider-to-provider (clinical) referral request interaction. It allows the bundling of the referral request document with other relevant clinical documents of interest by referencing such documents as shared by other Capabilities such as:

- HITSP/CAP119 Communicate Structured Document
- HITSP/CAP120 Communicate Unstructured Document
- HITSP/CAP133 Communicate Immunization Summary



3.6.2 DESIGN SPECIFICATION

3.6.2.1 INTERACTING SYSTEMS

Table 3-32 Interacting Systems

Interacting Systems
Electronic Health Record System
Health Information Exchange (HIE)

3.6.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-33 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	

3.6.2.3 LIST OF CONSTRUCTS

Table 3-34 List of Constructs

Construct	Description
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs
HITSP/T67 – Clinical Referral Request Transport	The HITSP Clinical Referral Request Transport Transaction will be used to transport the provider to provider (clinical) referral request interaction. It is based on the 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

3.6.2.4 SPECIFIED INTERFACES

Table 3-35 HITSP/CAP121 – Communicate Clinical Referral Request Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁰
Receive Documents	1	R	Healthcare Document Management (HITSP/SC112)	R
Referral Dispatcher	2	R	Convey/Request Referral (HITSP/T67)	R
Referral Requestor	3	R	Convey/Request Referral (HITSP/T67)	R
Request HL7 Message	4	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	5	R	HL7 Messaging (HITSP/SC115)	R
Send Documents	6	CAP121- [101], [102]	Healthcare Document Management (HITSP/SC112)	R

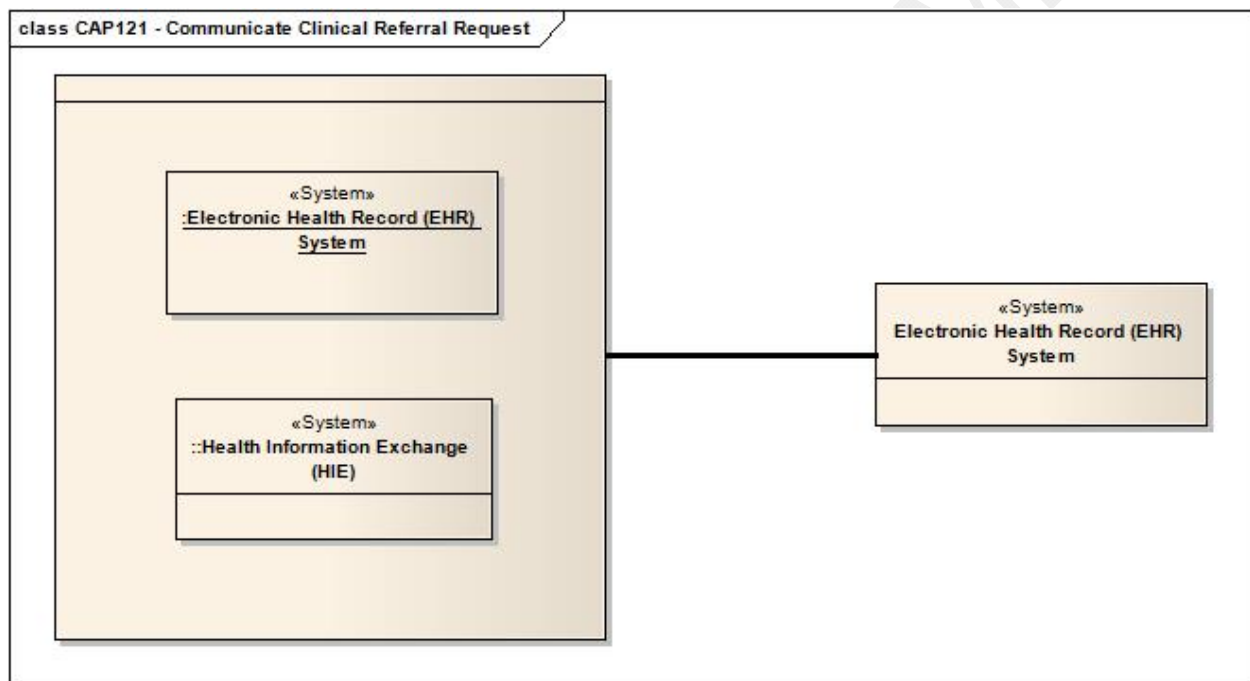
²⁰ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Table 3-36 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP121-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP121-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-6 HITSP/CAP121 – Communicate Clinical Referral Request Visual Overview

3.6.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.7 HITSP/CAP122 – RETRIEVE MEDICAL KNOWLEDGE SPECIFICATION

3.7.1 OVERVIEW

This Capability addresses the requirements to retrieve medical knowledge that is not patient-specific based on context parameters. The actual content delivered is not constrained by this Capability; this Capability focuses on providing the mechanism to ask for (query) and receive the medical knowledge.



3.7.2 DESIGN SPECIFICATION

3.7.2.1 INTERACTING SYSTEMS

Table 3-37 Interacting Systems

Interacting Systems
Clinical Information System
Laboratory Information System
Radiology Information System
Personal Health Record (PHR) Service Provider
Knowledge Resource System
Electronic Health Record (EHR) System
Health Information Exchange (HIE) (Knowledge Resource System)
Quality Measure Processing Entity
Performance Measurement Information Resource (Knowledge Resource System)

3.7.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-38 Constraints and Assumptions

Constraint	Type of Constraint
The context-specific parameters regarding the request for medical knowledge may include consumer knowledge level, preferred language, consumer demographics (gender, age), document type (laboratory results, radiology reports). If these parameters are known, these could be used to tailor the response and the medical knowledge returned	Assumption
A user-friendly error message is displayed in the event of query failure	Post-condition
Automatic request: Based upon predefined parameters, the requesting system may initiate, a request for medical knowledge from the Knowledge Resource	Process Trigger
Manual request: The user may initiate a request for medical knowledge from the Knowledge Resource	Process Trigger

3.7.2.3 LIST OF CONSTRUCTS

Table 3-39 List of Constructs

Construct	Description
HITSP/SC111 – Knowledge and Vocabulary	The HITSP Knowledge and Vocabulary Service Collaboration provides the ability to retrieve medical knowledge and terminology

3.7.2.4 SPECIFIED INTERFACES

Table 3-40 HITSP/CAP122 – Retrieve Medical Knowledge Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²¹
Request Medical Knowledge	1	R	Knowledge and Vocabulary (HITSP/SC111)	R
Respond Medical Knowledge	2	R	Knowledge and Vocabulary (HITSP/SC111)	R
Request Value Set	3	R	Knowledge and Vocabulary (HITSP/SC111)	R
Respond Value Set	4	O	Knowledge and Vocabulary (HITSP/SC111)	R

²¹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.

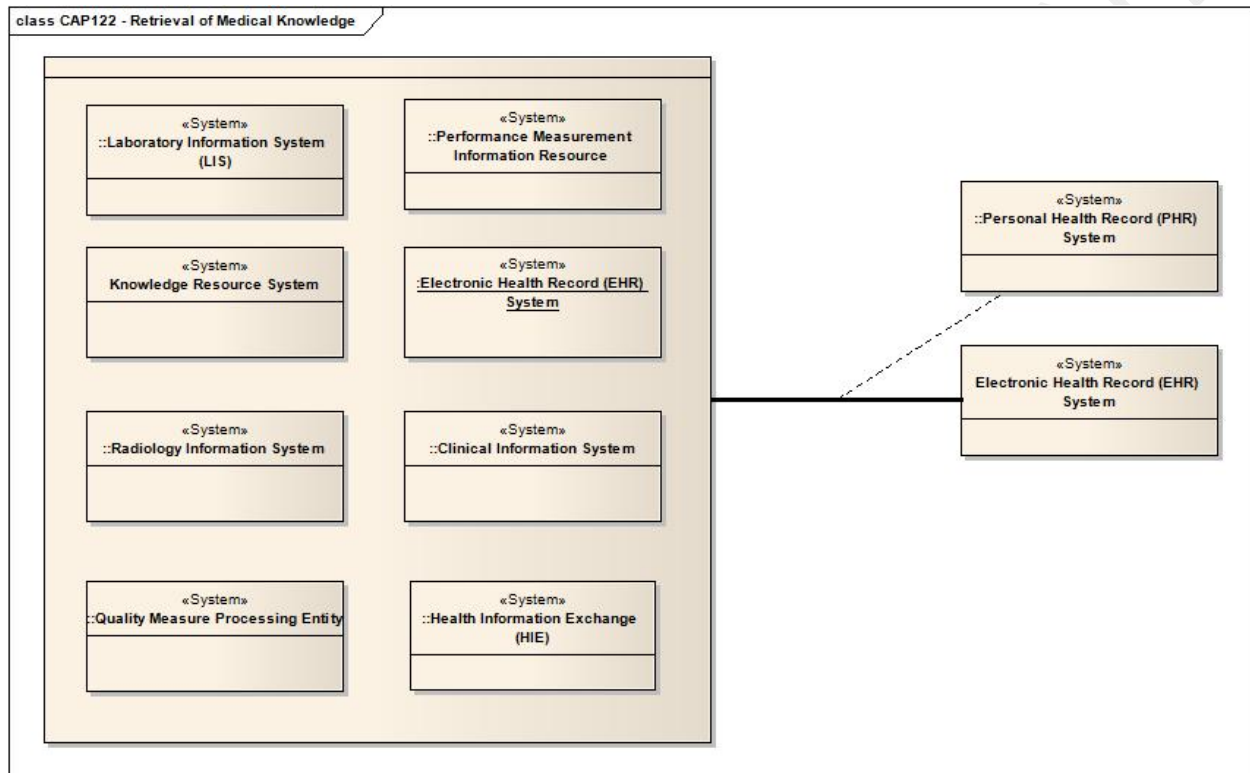


Table 3-41 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
No Applicable Condition Codes	

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-7 HITSP/CAP122 – Retrieve Medical Knowledge Visual Overview



3.7.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.8 HITSP/CAP123 – RETRIEVE EXISTING DATA SPECIFICATION

3.8.1 OVERVIEW

This Capability supports queries for clinical data (e.g., common observations, vital signs, problems, medications, allergies, immunizations, diagnostic results, professional services, procedures and visit history).



3.8.2 DESIGN SPECIFICATION

3.8.2.1 INTERACTING SYSTEMS

Table 3-42 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Immunization Information System (IIS)
Quality Measure Processing Entity

3.8.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with a Capability.

Table 3-43 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	

3.8.2.3 LIST OF CONSTRUCTS

Table 3-44 List of Constructs

Construct	Description
HITSP/C19 – Entity Identity Assertion	The HITSP Entity Identity Assertion Component ensures that an entity is the person or application that claims the identity provided
HITSP/SC113 – Query for Existing Data	The HITSP Query for Existing Data Service Collaboration provides the Capability to query and retrieve data from another clinical system, and the Capability to respond to same queries. It applies the necessary Security and Privacy constructs and supports all the queries found in HITSP/TP21
HITSP/TP21 – Query for Existing Data	The HITSP Query for Existing Data Transaction Package supports retrieval of patient level quality data from source repositories to compile the required patient level data submission

3.8.2.4 SPECIFIED INTERFACES

Table 3-45 HITSP/CAP123 – Retrieve Existing Data Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²²
Request Existing Patient Data	1	R	Query for Existing Data (HITSP/SC113)	CAP123-[201]
Respond to Existing Patient Data	2	R	Query for Existing Data (HITSP/SC113)	R

Table 3-46 Interface Conditions and T/TP/SC/Content Optionality

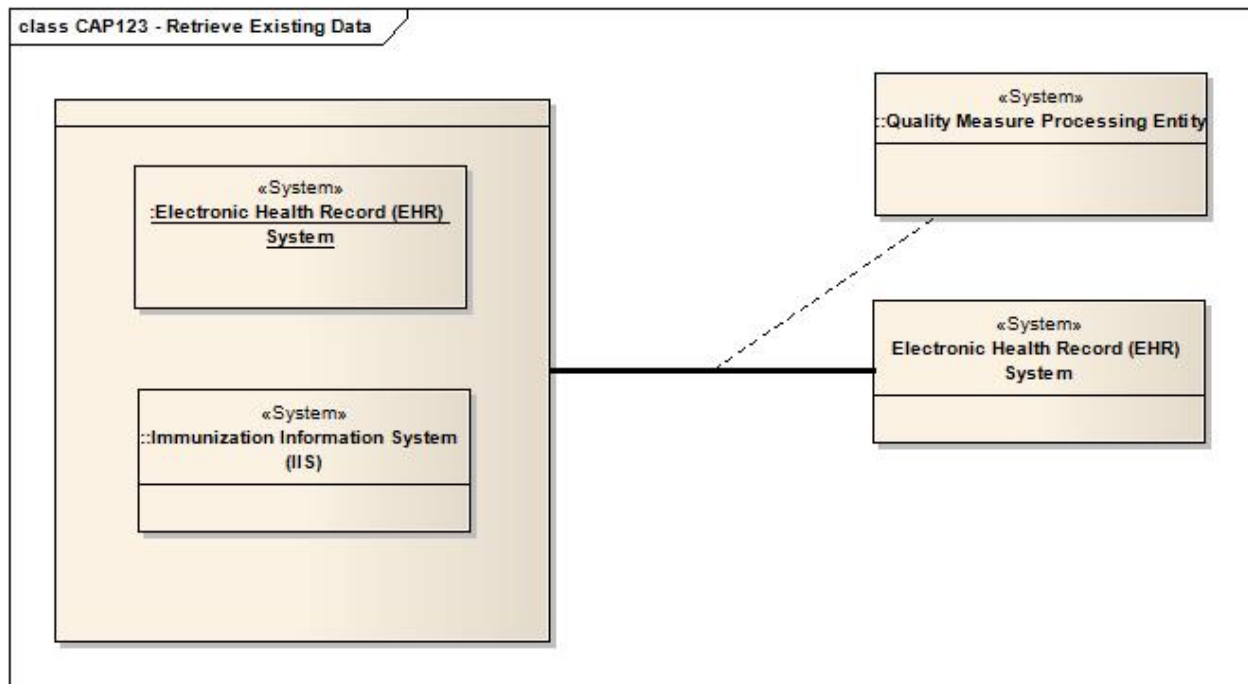
Condition Code	Condition Description
CAP123-[201]	Shall be applied where identity assertion is required by the jurisdiction or information sharing agreements

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²² Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-8 HITSP/CAP123 – Retrieve Existing Data Visual Overview



3.8.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.9 HITSP/CAP124 – ESTABLISH SECURE WEB ACCESS SPECIFICATION

3.9.1 OVERVIEW

This Capability is focused on providing a secured method to access information available from document repositories (e.g., Laboratory Report) in order to view them locally on a system. The chosen method for viewing the document content is through a web browser.

3.9.2 DESIGN SPECIFICATION

3.9.2.1 INTERACTING SYSTEMS

Table 3-47 Interacting Systems

Interacting Systems
Repository
Electronic Health Record (EHR) System

3.9.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.



Table 3-48 Constraints and Assumptions

Constraint	Type of Constraint
The Laboratory has registered the laboratory result document in the Repository, and the Repository has notified the Locator Service of the document location	Pre-condition
Result is received and is viewable or can be processed	Post-Condition

3.9.2.3 LIST OF CONSTRUCTS

Table 3-49 List of Constructs

Construct	Description
HITSP/C44 – Secure Web Connection	The HITSP Secure Web Connection Component provides the Capability to access documents through a secure web browser
HITSP/SC108 – Access Control	The HITSP Access Control Service Collaboration 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
HITSP/SC109 – Security Audit	The HITSP Security Audit Service Collaboration describes the mechanism to record security relevant events in support of policy, regulation, or risk analysis. It also provides the mechanism to determine the record format to support analytical reports that are needed
HITSP/T17 – Secured Communication Channel	The HITSP 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/T18 – View Laboratory Results from a Web Application	The HITSP View Laboratory Results from a Web Application Transaction allows a user to view a laboratory report through a secure browser. This Transaction uses the HITSP/C44 – Secure Web Connection Component. It may not define all functions, constructs and standards necessary to implement a conforming system in a real world environment. In particular, an implementer must provide the technical infrastructure and security framework necessary to support operations in accordance with law, regulation, best practices and business agreements

3.9.2.4 SPECIFIED INTERFACES

Table 3-50 HITSP/CAP124 – Establish Secure Web Access Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²³
Web Server	1	R	View Laboratory Results (HITSP/T18) Secure Web Connection (HITSP/C44)	R R
Node	2	R	Secured Communication Channel (HITSP/T17)	R
Request access control decision	3	R	Access Control (HITSP/SC108)	R
Send Security Audit Event	4	R	Security Audit (HITSP/SC109)	R

Table 3-51 Interface Conditions and T/TP/SC/Content Optionality

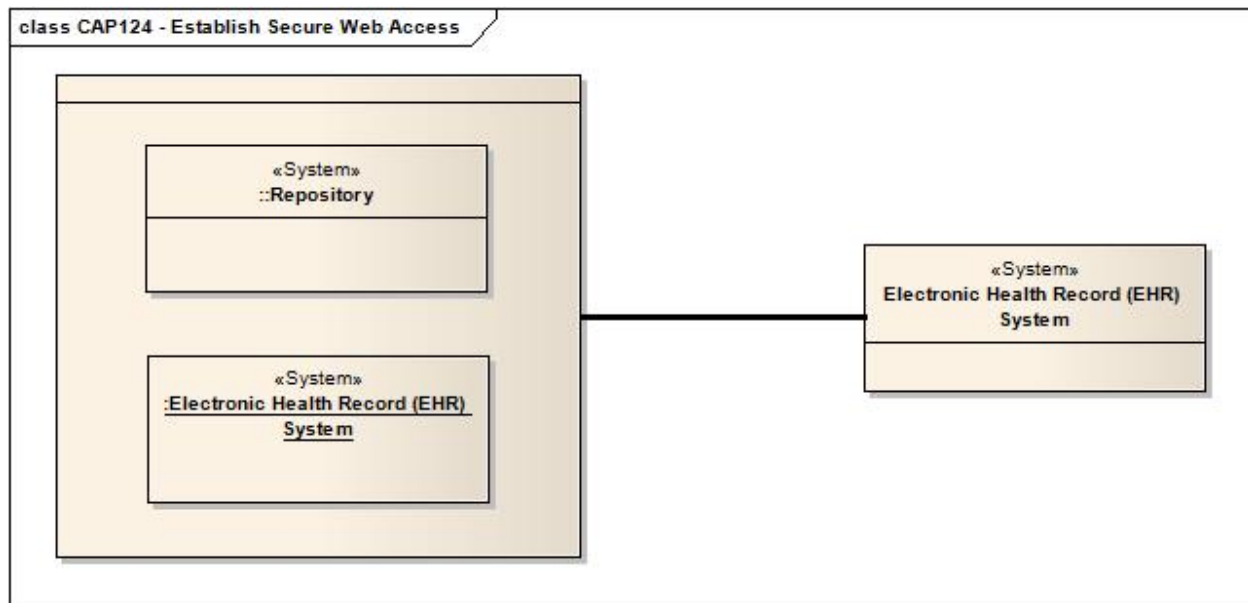
Condition Code	Condition Description
No Applicable Condition Codes	

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²³ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-9 HITSP/CAP124 – Establish Secure Web Access Visual Overview



3.9.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.10 HITSP/CAP125 – RETRIEVE GENOMIC DECISION SUPPORT SPECIFICATION

3.10.1 OVERVIEW

This Capability addresses interoperability requirements that support the communication of genetic and family history information and an assessment of genetic risk of disease for a patient.

3.10.2 DESIGN SPECIFICATION

3.10.2.1 INTERACTING SYSTEMS

Table 3-52 Interacting Systems

Interacting Systems
Genetic Clinical Decision Support System
Electronic Health Record (EHR) System

3.10.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-53 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	



3.10.2.3 LIST OF CONSTRUCTS

Table 3-54 List of Constructs

Construct	Description
HITSP/C90 – Clinical Genomic Decision Support	The HITSP Family History Decision Support for Genetic Risk Analysis Component is used to communicate genetic and family history information from healthcare IT applications to a clinical decision support system that provides an assessment of genetic risk of disease for a patient. It uses the HL7 Version 3 Standard: Clinical Genomics; Pedigree, Release 1 to support the communication of genetic and family history information to the clinical decision support system, and to support the communication of risk information from that system back to the originator
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)

3.10.2.4 SPECIFIED INTERFACES

Table 3-55 HITSP/CAP125 – Retrieve Genomic Decision Support Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁴
Content Creator	1	CAP125-[101]	Content Creator-Family History (HITSP/C90)	R
Content Consumer	2	R	Content Consumer Genetic Risk Analysis (HITSP/C90)	CAP125-[101]
Send Documents	3	CAP125-[102], [103]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	4	CAP125-[102]	Healthcare Document Management (HITSP/SC112)	R

Table 3-56 Interface Conditions and T/TP/SC/Content Optionality

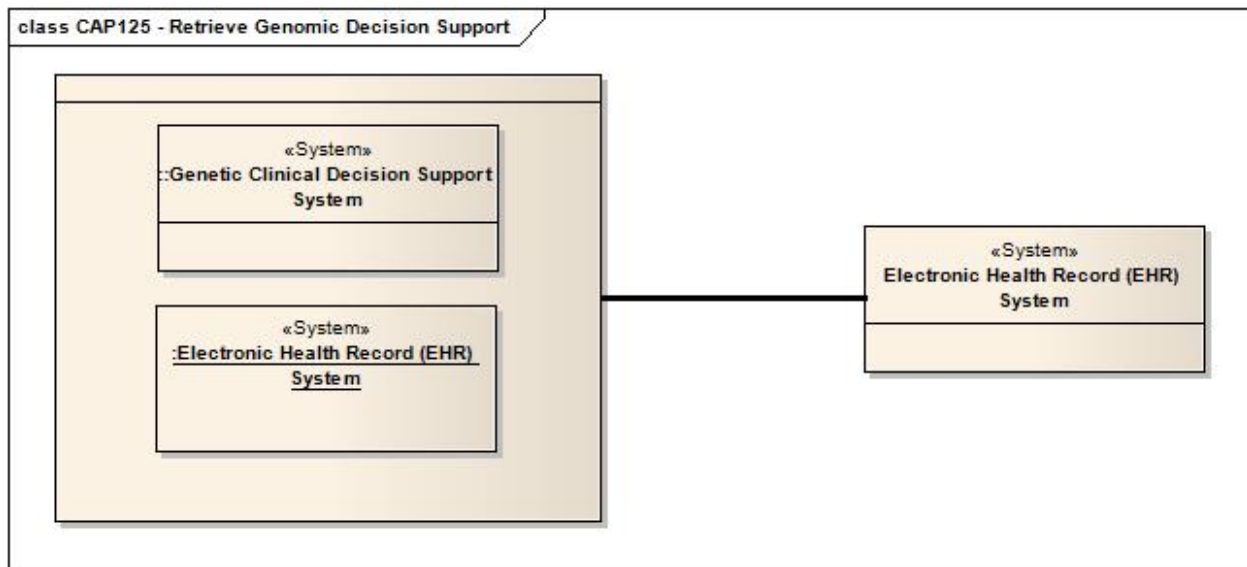
Condition Code	Condition Description
CAP125-[101]	Shall be supported if this system is being used to provide genetic counseling
CAP125-[102]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP125-[103]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²⁴ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-10 HITSP/CAP125 – Retrieve Genomic Decision Support Visual Overview



3.10.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.11 HITSP/CAP126 – COMMUNICATE LAB RESULTS MESSAGE SPECIFICATION

3.11.1 OVERVIEW

This Capability addresses interoperability requirements that support the sending of a set of laboratory test results. Ordering Providers of Care receive results as a laboratory results message. The communication of the order is out of scope for this Capability.

The content of these test results may be either or both: General Laboratory Test Results; Microbiology Test Results

This Capability may use content anonymization.

3.11.2 DESIGN SPECIFICATION

3.11.2.1 INTERACTING SYSTEMS

Table 3-57 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Infrastructure Services
Laboratory Information System
Health Information Exchange (HIE)
Public Health Information System
Clinical Information System
Diagnostic Imaging Information System



3.11.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-58 Constraints and Assumptions

Constraint	Type of Constraint
Laboratory results are only sent to the prescribing physician; all others receive notification, due to HIPAA regulation	Assumption
An order for a laboratory test has been created and accepted by the performing laboratory	Pre-condition
The order contains an electronic address of all authorized electronic recipients	Pre-condition
Result is received and is viewable or can be processed	Post-condition

3.11.2.3 LIST OF CONSTRUCTS

Table 3-59 List of Constructs

Construct	Description
HITSP/C35 – Lab Result Terminology	The HITSP Lab Result Terminology Component defines the vocabulary for either message-based or document-based laboratory results reporting
HITSP/C36 – Lab Result Message	The HITSP 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/C87 – Anonymize Public Health Case Reporting Data	The HITSP Anonymize Public Health Case Reporting Data Component provides specific instructions for anonymizing data that was created as part of routine clinical care data delivery in preparation for repurposing data for public health case reporting. This construct defines the Component specification that provides the ability to anonymize patient identifiable information. Anonymization, according to the International Organization for Standardization (ISO), is the process that removes the association between the identifying data set and the data subject
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs
HITSP/T14 – Send Laboratory Result Message	The HITSP 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/T24 – Pseudonymize	The HITSP Pseudonymize Transaction describes a framework for including Pseudonymization Services where the use of “dummy” or pseudo references to specific patients or providers is required. Pseudo-identifiers are intended to allow accessibility to clinical information, while safeguarding any information that may compromise the privacy of the individual patient or provider. Using pseudo-identifiers can assist in compliance with HIPAA regulations regarding suppression of patient identification information



3.11.2.4 SPECIFIED INTERFACES

Table 3-60 HITSP/CAP126 – Communicate Lab Results Message Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁵
Content Creator	1	R	Lab Result Terminology (HITSP/C35)	R
		O	Lab Result Message (HITSP/C36)	R
		CAP126-[101]	Pseudonymization Request (HITSP/T24)	R
		CAP126-[102]	Anonymize (HITSP/C87)	R
Content Consumer	2	R	Laboratory Result – General Laboratory Subset (see Section 3.11.2.5.1)(HITSP/C36)	R
			Laboratory Result – Microbiology Subset (see section 3.11.2.5.2)(HITSP/C36)	R
			Laboratory Result Terminology – General Laboratory Subset (See section 3.11.2.5.1)(HITSP/C35)	R
			Laboratory Result Terminology – Microbiology Subset (see section 3.11.2.5.2)(HITSP/C35)	R
Laboratory Result Message Sender	3	R	Send Lab Result Message (HITSP/T14)	R
			Lab Result Terminology (HITSP/C35)	R
			Lab Result Message (HITSP/C36)	R
Laboratory Result Message Receiver	4	R	Send Lab Result Message (HITSP/T14)	R
			Lab Result Terminology (HITSP/C35)	R
			Lab Result Message (HITSP/C36)	R
Request HL7 Message	5	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	6	R	HL7 Messaging (HITSP/SC115)	R

Table 3-61 Interface Conditions and T/TP/SC/Content Optionality

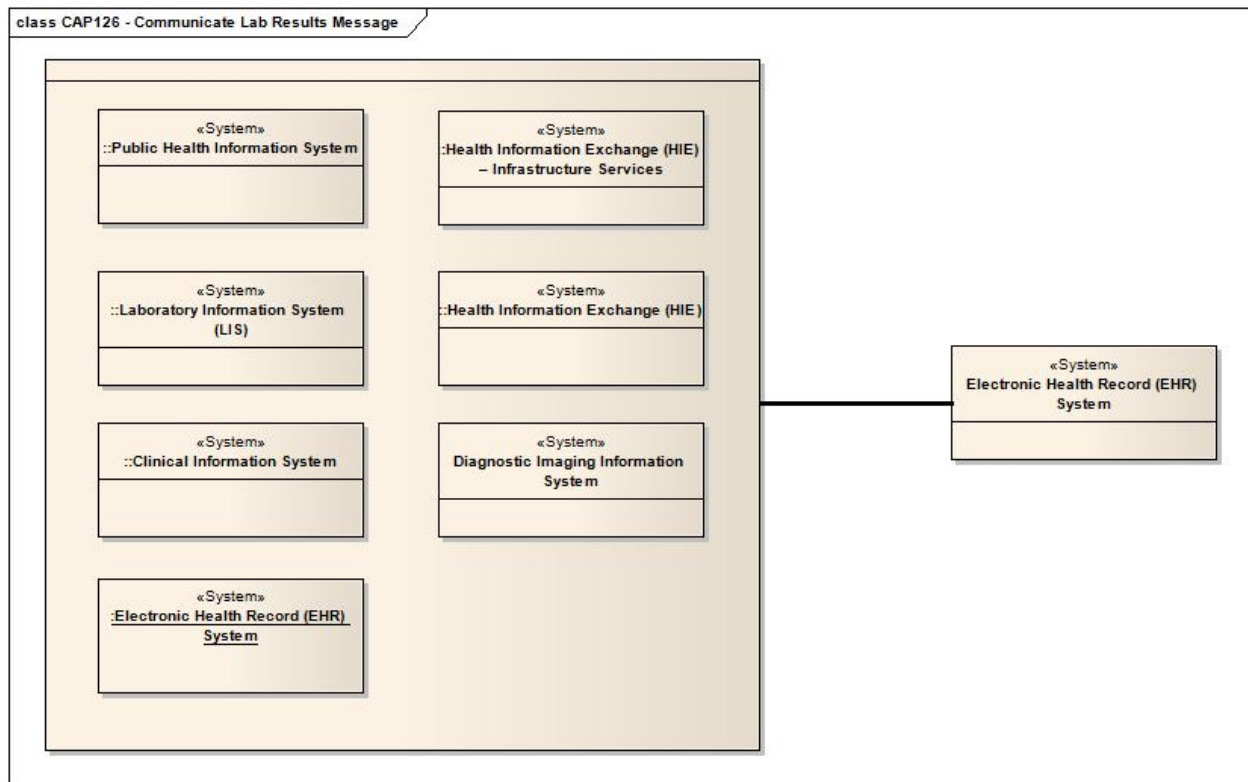
Condition Code	Condition Description
CAP126-[101]	Shall be applied where pseudonymization is required by the jurisdiction or information sharing agreements or selected by PHR
CAP126-[102]	Shall be applied where anonymization is required by the jurisdiction or information sharing agreements or selected by PHR

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²⁵ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-11 HITSP/CAP126 – Communicate Lab Results Message Visual Overview



3.11.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.11.2.5.1 HITSP/C36 and HITSP/C35 “Laboratory Result-General Laboratory Subset”

The General Laboratory subset as defined by this Interoperability Specification includes the following specialties (The LOINC codes are provided in parenthesis):

- Hematology (HM, 18723-7, 18768-2)
- Blood banks (BLB, 18717-9, 18724-5 HLA studies) (excluding transfusion workflow and blood products distribution)
- Coagulation studies, clotting factors (18720-3)
- Immunology (IMM) and Serology (SR, 18727-8)
- Chemistry (CH, 18719-5)
- Urinalysis (18729-4)
- Blood gas (BG, 18767-4)
- Dynamic function tests (26437-4 challenge studies)
- Spermiology (18722-9 fertility studies)
- Hormonology
- Enzymology
- Proteins, tumor markers (18718-7 cell marker studies), vitamins
- Toxicology (TX, 18728-6) and pharmacology (18721-1 therapeutic drug monitoring)



3.11.2.5.2 HITSP/C36 and HITSP/C35 “Laboratory Result-Microbiology Subset”

The Microbiology subset, as defined in this Interoperability Subset, includes the following specialties (LOINC codes are provided in parenthesis):

- Microbiology including bacteriology (MB, 18725-2)
- Mycology (MCB, MYC)
- Parasitology
- Microbial susceptibility tests (18769-0)
- Virology (VR)

3.12 HITSP/CAP127 – COMMUNICATE LAB RESULTS DOCUMENT SPECIFICATION

3.12.1 OVERVIEW

This Capability addresses interoperability requirements that support the communication of a set of structured laboratory results related to a patient in a context set by the source of the document who is attesting to its content. Non-ordering Providers of Care access historical laboratory results as documents and "copy-to" Providers of Care may receive document availability notifications to retrieve such lab report documents.

Lab Report content creators shall support HITSP specified coded terminologies as defined by specific content subsets specified in this Capability for: General Laboratory Test Results; Microbiology Test Results

This Capability may use content anonymization.

3.12.2 DESIGN SPECIFICATION

3.12.2.1 INTERACTING SYSTEMS

Table 3-62 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Laboratory Information System
Health Information Exchange (HIE)
Infrastructure Services
Public Health Information System
Clinical Information System
Diagnostic Imaging Information System
Personal Health Record (PHR) System
Emergency Communications System

3.12.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-63 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	



3.12.2.3 LIST OF CONSTRUCTS

Table 3-64 List of Constructs

Construct	Description
HITSP/C25 – Anonymize	The HITSP Anonymize Component provides specific instruction for anonymizing data that are prepared for repurposing data created as part of routine clinical care delivery. This construct defines the Component specification that provides the ability to anonymize patient identifiable information
HITSP/C35 – Lab Result Terminology	The HITSP Lab Result Terminology Component defines the vocabulary for either message-based or document-based laboratory results reporting
HITSP/C37 – Lab Report Document	The HITSP 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/C87 – Anonymize Public Health Case Reporting Data	The HITSP Anonymize Public Health Case Reporting Data Component provides specific instructions for anonymizing data that was created as part of routine clinical care data delivery in preparation for repurposing data for public health case reporting. This construct defines the Component specification that provides the ability to anonymize patient identifiable information. Anonymization, according to the International Organization for Standardization (ISO), is the process that removes the association between the identifying data set and the data subject
HITSP/SC111 – Knowledge and Vocabulary	The HITSP Knowledge and Vocabulary Service Collaboration provides the ability to retrieve medical knowledge and terminology
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)

3.12.2.4 SPECIFIED INTERFACES

Table 3-65 HITSP/CAP127 – Communicate Lab Results Document Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁶
Content Consumer	1	R	Consumer-Document Display Subset(See section 3.12.2.5.1) (HITSP/C37)	R
			Consumer-Document Import Subset(See section 3.12.2.5.2) (HITSP/C37)	R
			Consumer-Lab Report Discrete Data – General Laboratory Import Subset(See section 3.12.2.5.3) (HITSP/C37)	R
			Consumer-Lab Report Discrete Data – Microbiology Import Subset (See section 3.12.2.5.4)(HITSP/C37)	CAP127 –[201]
			Laboratory Result Terminology – General Laboratory Subset (See section3.12.2.5.5)(HITSP/C35)	R
			Laboratory Result Terminology – Microbiology Subset (See section 3.12.2.5.6)(HITSP/C35)	R
Content Creator	2	R	Lab Report Document (HITSP/C37)	R
			Anonymize (HITSP/C25)	R
		R	Anonymize (HITSP/C87)	R

²⁶ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁶
Send Documents	3	CAP127- [101], [102]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	4	CAP127- [101]	Healthcare Document Management (HITSP/SC112)	R
Request Value Set	5	R	Knowledge and Vocabulary (HITSP/SC111)	R

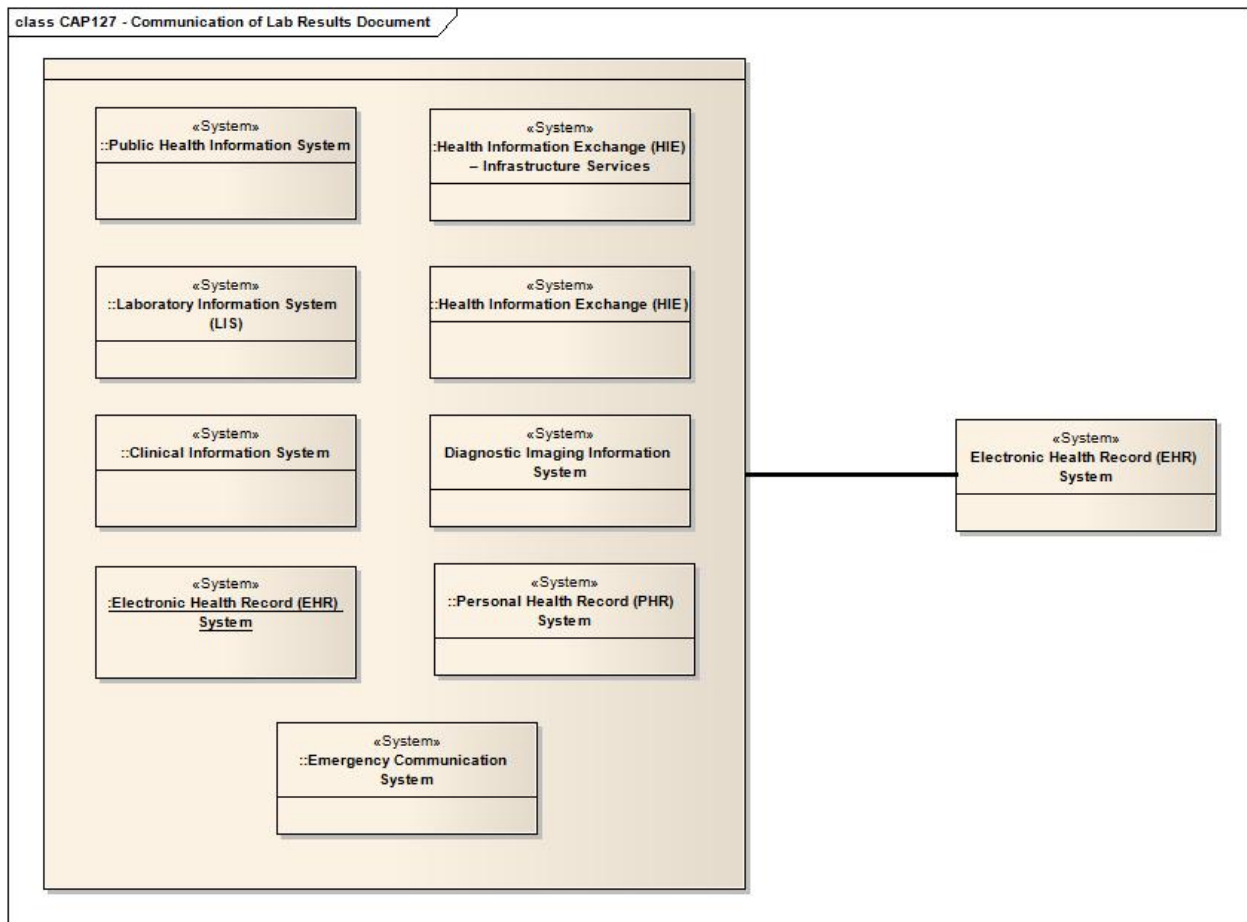
Table 3-66 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP127-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP127-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management
CAP127-[201]	If an implementation claims to manage microbiology data, it must support this subset

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.



Figure 3-12 HITSP/CAP127 – Communicate Lab Results Document Visual Overview



3.12.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.12.2.5.1 HITSP/C37 “Consumer - Document Display Subset”

This subset impacts the import of Documents processed by a Content Consumer Technical Actor. It requires the Document Consumer only to have the ability to display the HITSP/C37 - Lab Report Document as requested (it may not be able to locally import the lab report document into the patient record).

3.12.2.5.2 HITSP/C37 “Consumer - Document Import Subset”

This subset impacts the import of Documents processed by a Content Consumer Technical Actor. It requires the Document Consumer to have the ability to import into the patient record the HITSP/C37 - Lab Report Document as a whole and display it as requested.

3.12.2.5.3 HITSP/C37 “Consumer-Lab Report Discrete Data – General Laboratory Import Subset”

This subset impacts the import of HITSP/C37 - Lab Report Document processed by a Content Consumer Technical Actor. It requires the Document Consumer to have the ability to import General Laboratory discrete data from one or more of the entries in a structured form into the patient record. Coded values shall be maintained.



3.12.2.5.4 HITSP/C37 “Consumer-Lab Report Discrete Data – Microbiology Import Subset”

This subset impacts the import of HITSP/C37 - Lab Report Document processed by a Content Consumer Technical Actor. It requires the Document Consumer to have the ability to import *Microbiology* discrete data from one or more of the entries in a structured form into the patient record. Coded values shall be maintained.

3.12.2.5.5 HITSP/C35 “Laboratory Result Terminology-General Laboratory Subset”

The General Laboratory subset as defined by this Interoperability Specification includes the following specialties (The LOINC codes are provided in parenthesis):

- Hematology (HM, 18723-7, 18768-2)
- Blood banks (BLB, 18717-9, 18724-5 HLA studies) (excluding transfusion workflow and blood products distribution)
- Coagulation studies, clotting factors (18720-3)
- Immunology (IMM) and Serology (SR, 18727-8)
- Chemistry (CH, 18719-5)
- Urinalysis (18729-4)
- Blood gas (BG, 18767-4)
- Dynamic function tests (26437-4 challenge studies)
- Spermiology (18722-9 fertility studies)
- Hormonology
- Enzymology
- Proteins, tumor markers (18718-7 cell marker studies), vitamins
- Toxicology (TX, 18728-6) and pharmacology (18721-1 therapeutic drug monitoring)

3.12.2.5.6 HITSP/C35 “Laboratory Result Terminology-Microbiology Subset”

The Microbiology subset, as defined in this Interoperability Subset, includes the following specialties (LOINC codes are provided in parenthesis):

- Microbiology including bacteriology (MB, 18725-2)
- Mycology (MCB, MYC)
- Parasitology
- Microbial susceptibility tests (18769-0)
- Virology (VR)

3.13 HITSP/CAP128 – COMMUNICATE IMAGING INFORMATION SPECIFICATION

3.13.1 OVERVIEW

This Capability addresses interoperability requirements that support the communication of a set of imaging results (i.e., reports, image series from imaging studies) related to a patient in a context set. This is done by an Imaging System acting as the information source attesting to its content.

This Capability may use content anonymization.



3.13.2 DESIGN SPECIFICATION

3.13.2.1 INTERACTING SYSTEMS

Table 3-67 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Laboratory Information Systems
Infrastructure Services
Health Information Exchange (HIE)
Public Health Information System
Clinical Information System
Diagnostic Imaging Information System
Personal Health Record (PHR) System
Emergency Communications System

3.13.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-68 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	

3.13.2.3 LIST OF CONSTRUCTS

Table 3-69 List of Constructs

Construct	Description
HITSP/SC111 – Knowledge and Vocabulary	The HITSP Knowledge and Vocabulary Service Collaboration provides the ability to retrieve medical knowledge and terminology
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)
HITSP/TP89 – Sharing Imaging Results	The HITSP 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



3.13.2.4 SPECIFIED INTERFACES

Table 3-70 HITSP/CAP128 – Communicate Imaging Information Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁷
Imaging Document Consumer	1	R	Retrieve Images [RAD-16] (HITSP/TP89)	CAP128-[201]
			WADO Retrieve [RAD-55] (HITSP/TP89)	CAP128-[201]
Receive Documents	2	CAP128-[101]	Healthcare Document Management (HITSP/SC112)	R
Send Documents	3	CAP128-[101], [102]	Healthcare Document Management (HITSP/SC112)	R
Request Value Set	4	R	Knowledge and Vocabulary (HITSP/SC111)	R
Request Medical Knowledge	5	R	Knowledge and Vocabulary (HITSP/SC111)	R
Respond Medical Knowledge	6	R	Knowledge and Vocabulary (HITSP/SC111)	R

Table 3-71 Interface Conditions and T/TP/SC/Content Optionality

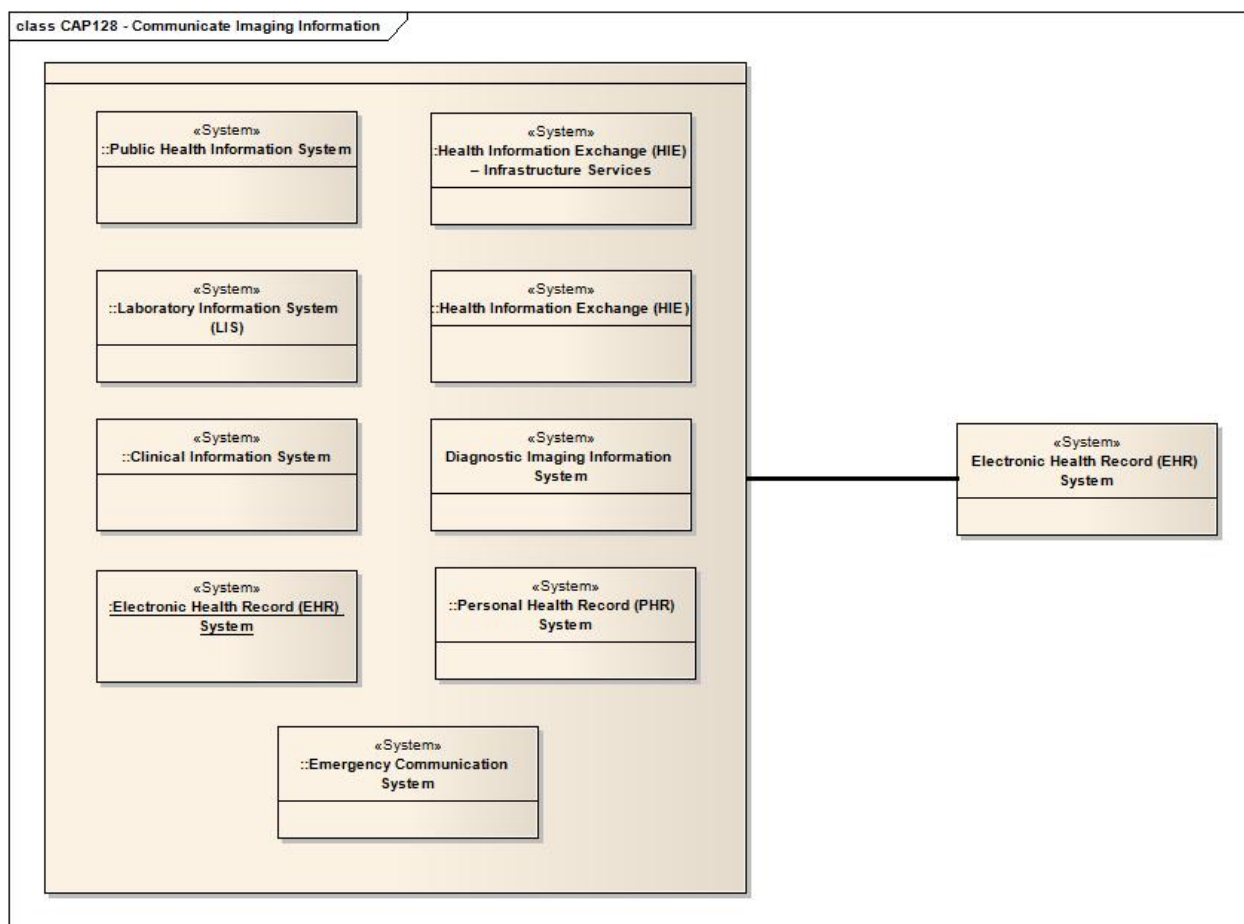
Condition Code	Condition Description
CAP128-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP128-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management
CAP128-[201]	System shall support at least one of these interfaces to communicate image content

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²⁷ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-13 HITSP/CAP128 – Communicate Imaging Information Visual Overview



3.13.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.14 HITSP/CAP129 – COMMUNICATE QUALITY MEASURE DATA SPECIFICATION

3.14.1 OVERVIEW

This Capability addresses interoperability to support hospital and clinician collection and communication of patient encounter data to support the analysis needed to identify a clinician or hospital's results relative to an EHR-compatible, standards-based quality measure.

Quality measures may include:

1. Patient-level clinical detail from which to compute quality measures. Patient level clinical data is compiled from both the local systems and from longitudinal data available through other sources such as a Health Information Exchange (HIE)
2. Patient-level quality data based upon clinical detail. The "patient-level quality data reports" are exported from EHRs or quality-monitoring applications at the point of care

This Capability may use content Anonymization. Pseudonymization, if needed, is supported by HITSP/CAP138 Retrieve Pseudonym.



This Capability may use Value Set Sharing.

3.14.2 DESIGN SPECIFICATION

3.14.2.1 INTERACTING SYSTEMS

Table 3-72 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Health Information Exchange (HIE)
Quality Measure and Reporting Enterprise
Quality Measure Processing Entity

3.14.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-73 Constraints and Assumptions

Constraint	Type of Constraint
Pre-implementation certification/audit of the process (e.g., integrator/vendor certification)	Pre-condition
This specification will assume clearly defined measures as a Pre-condition. (See AQA for Heart Failure set of measures as an example of a clearly defined measure)	Pre-condition
The 'EHR' referenced may include any information system contained in any clinical and/or financial system supporting patient care and may be used for quality analysis; Augmentation is information that does not exist in an electronic form in the described systems	Assumption
Claims data are available to CIS during compilation of historical and supplemental information retrieval	Assumption
Clinical care documentation is available in an electronic format so that measure data can be provided in electronic form	Assumption
Assume that there may be a statistician encoding the rules, and that the implementation of the mathematical formula is not specified in the Interoperability Specification and is left to product innovation	Assumption
For each measure, wherever analyzed, the calculation algorithm is the same	Assumption
Changes in measures can be tracked over time (NOTE: a likely solution is versioning)	Assumption
Minimum dataset requirements for quality measurement are established	Pre-condition
There is policy surrounding sharing of this data, refuting data pre and post publication, and release of risk-adjusted public dissemination. Internal risk management policies surrounding public disclosures will be defined by organizational and public policy	Assumption
Measures are available for quality improvement feedback and for measurement developer	Post-condition
An audit is performed to ensure the integrity and accuracy of the measurement and reporting program	Post-condition
The information recipient MAY further translate from the standard format to a local format at the system edge	Post-condition
Patient level data are ready for submission for measurement calculation	Trigger

3.14.2.3 LIST OF CONSTRUCTS

Table 3-74 List of Constructs

Construct	Description
HITPS/SC111 – Knowledge and Vocabulary	The HITSP Knowledge and Vocabulary Service Collaboration provides the ability to retrieve medical knowledge and terminology
HITSP/C105 – Patient Level Quality Data Document Using HL7 Quality Reporting Document Architecture (QRDA)	The HITSP Patient Level Quality Data Document Using HL7 Quality Reporting Document Architecture Component supports the communication of patient level quality data for quality measurement in a document sharing environment. Patient encounter data are compiled from both the local systems and from longitudinal data available through a Health Information Exchange (HIE) prior to communicating the retrieved data described in this construct for analysis



Construct	Description
HITSP/C25 – Anonymize	The HITSP Anonymize Component provides specific instruction for anonymizing data that are prepared for repurposing data created as part of routine clinical care delivery. This construct defines the Component specification that provides the ability to anonymize patient identifiable information
HITSP/C34 – Patient Level Quality Data Message	The HITSP Patient Level Quality Data Message Component supports the process of sending patient data from a Quality Message Sender to a Quality Message Receiver for further analysis and aggregation. Patient data are captured as part of the normal process of care performed by healthcare providers such as hospitals, emergency departments and outpatient clinics
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs
HITSP/C26 - Nonrepudiation of Origin	The HITSP Nonrepudiation of Origin Component provides the mechanisms to support Nonrepudiation of Origin, which refers to both the proof of the integrity and origin of documents in a high-assurance manner, which can be verified by any party. This Component does not provide Nonrepudiation of Receipt

3.14.2.4 SPECIFIED INTERFACES

Table 3-75 HITSP/CAP129 – Communicate Quality Measure Data Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁸
Request HL7 Message	1	CAP129-[103], [104]	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	2	CAP129-[103], [104]	HL7 Messaging (HITSP/SC115)	R
Content Creator	3	R	Patient Level Quality Data Message Component (HITSP/C34)	CAP129-[201]
		R	Patient Level Quality Document Component (HITSP/C105)	CAP129-[201]
		<u>R</u>	Anonymize (HITSP/C25)	CAP129-[202]
		R	Nonrepudiation of Origin (HITSP/C26)	CAP129-[205]
Content Consumer	4	R	Patient Level Quality Data Message Component (HITSP/C34)	CAP129-[201]
		R	Patient Level Quality Document Component (HITSP/C105)	CAP129-[201]
		R	Nonrepudiation of Origin (HITSP/C26)	CAP129-[205]
Send Documents	5	CAP129-[101], [102]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	6	CAP129-[101] [105]	Healthcare Document Management (HITSP/SC112)	CAP129-[204], [203]

Table 3-76 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP129-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation

²⁸ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.

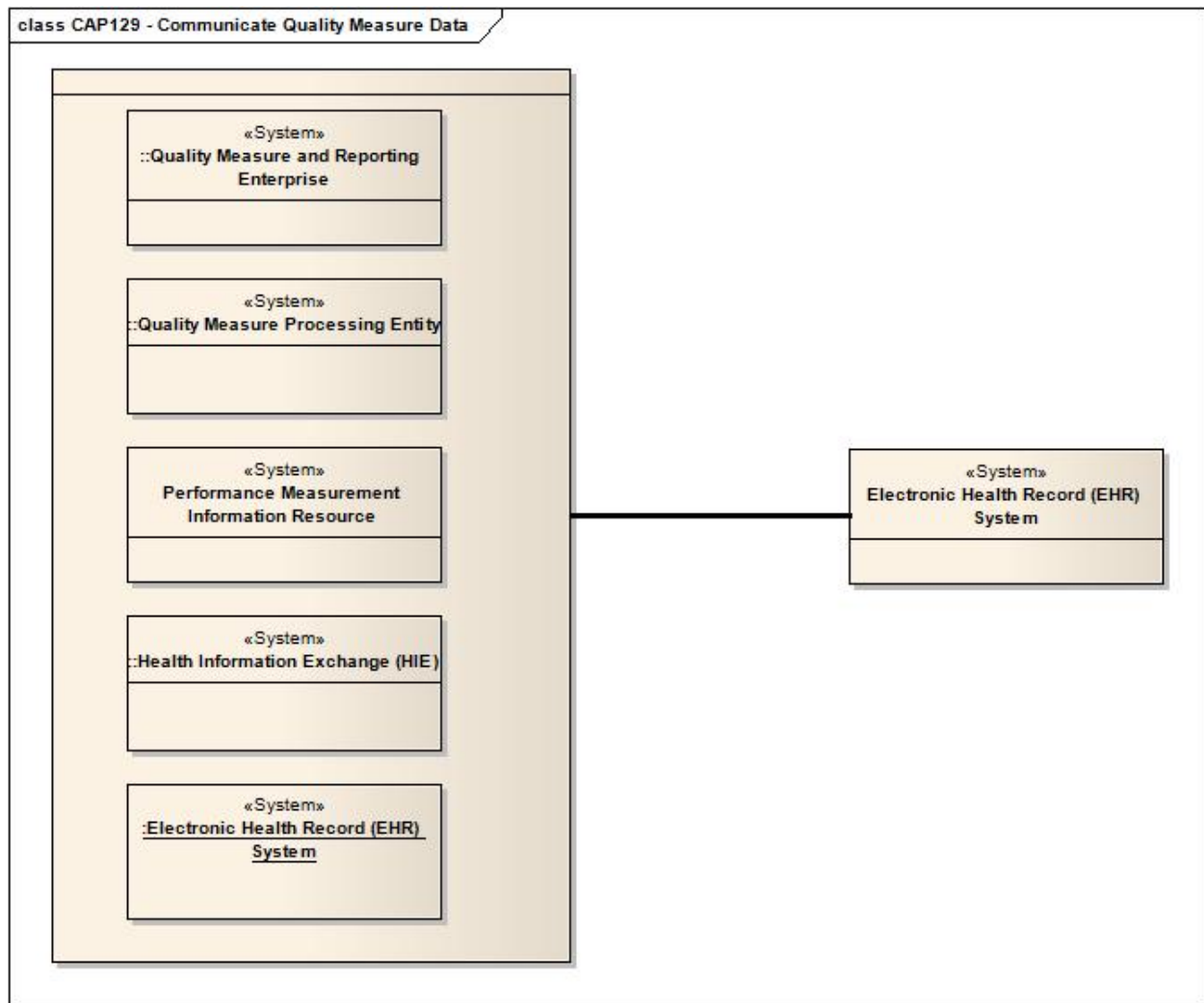


Condition Code	Condition Description
CAP129-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HTISP/SC112 Healthcare document Management
CAP129-[103]	Shall be applied for message-based functional flow
CAP129-[104]	System shall support at least one of these interfaces
CAP129-[105]	NAV may be required by implementation to support notification of document availability
CAP129-[201]	Shall support either HITSP Patient level Quality Message Component or HITSP Patient level Quality Document Component, or both
CAP129-[202]	Shall be applied where anonymization is required by the jurisdiction or information sharing agreements
CAP129-[203]	Shall support Multi-Patient Stored Query
CAP129-[204]	Shall support Document Metadata Subscription
CAP129-[205]	Shall be applied where non-repudiation is required by the jurisdiction or information sharing agreements

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.



Figure 3-14 HITSP/CAP129 - Communicate Quality Measure Data Visual Overview



3.14.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.15 HITSP/CAP130 – COMMUNICATE QUALITY MEASURE SPECIFICATION

3.15.1 OVERVIEW

This Capability addresses interoperability requirements for an EHR-compatible, standards-based quality measure. In the measure specification, needed patient encounter data elements are identified so they can be extracted from local systems and from longitudinal data available through other sources such as a Health Information Exchange (HIE). The measure specification also includes various sets of exclusion/inclusion criteria to identify which patients to include in calculation of the measure. This Capability may use Value Set Sharing.



3.15.2 DESIGN SPECIFICATION

3.15.2.1 INTERACTING SYSTEMS

Table 3-77 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Health Information Exchange (HIE)
Quality Measure and Reporting Enterprise
Quality Measure Processing Entity
Performance Measurement Information Resource

3.15.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-78 Constraints and Assumptions

Constraint	Type of Constraint
Hospitals and clinicians will only receive measures applicable to their population	Pre-condition
New measure or updated measure is ready to be communicated – to publish, record, send, or review	Trigger
Quality measures are provided with sufficient specification to enable the electronic upload and processing of queries without the need for local interpretation. Limitation on potentially ambiguous criteria should be part of the measurement endorsement process. Measures are unambiguous, well-defined	Assumption

3.15.2.3 LIST OF CONSTRUCTS

Table 3-79 List of Constructs

Construct	Description
HITSP/C26 - Nonrepudiation of Origin	The HITSP Nonrepudiation of Origin Component provides the mechanisms to support Nonrepudiation of Origin, which refers to both the proof of the integrity and origin of documents in a high-assurance manner, which can be verified by any party. This Component does not provide Nonrepudiation of Receipt
HITSP/C106 – Measurement Criteria Document	This HITSP Component supports communication of a quality measure (aka an "eMeasure"). Clinical concepts (e.g. "atrial fibrillation", "coronary artery disease") and parameters (e.g. "numerator", "denominator") in an eMeasure are formally defined to support consistent and unambiguous interpretation. The eMeasure is standardized as a structured document, where one can capture the complete narrative of the measure and a formalized computable representation of statements
HITSP/SC108 – Access Control	The HITSP Access Control Service Collaboration 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
HITSP/SC109 – Security Audit	The HITSP Security Audit Service Collaboration describes the mechanism to record security relevant events in support of policy, regulation, or risk analysis. It also provides the mechanism to determine the record format to support analytical reports that are needed
HITSP/SC111 – Knowledge and Vocabulary	The HITSP Knowledge and Vocabulary Service Collaboration provides the ability to retrieve medical knowledge and terminology
HITSP/T17 – Secured Communication Channel	The HITSP 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



3.15.2.4 SPECIFIED INTERFACES

Table 3-80 HITSP/CAP130 – Communicate Quality Measure Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality
Measure Message Receiver	1	CAP130-[101]	Receive Message (PUBLIC COMMENT INPUT WELCOME)	R
			Send Ack (PUBLIC COMMENT INPUT WELCOME)	R
Content Consumer	2	R	Measurement Criteria Document (HITSP/C106)	R
		R	Nonrepudiation of Origin (HITSP/C26)	CAP130-[201]
Query Measures	3	CAP130-[101]	Measurement Criteria (HITSP/C106) (PUBLIC COMMENT INPUT WELCOME)	R
Node	4	R	Secured Communication Channel (HITSP/T17)	R
Request Access Control Decision	5	R	Access Control (HITSP/SC108)	R
Send Security Audit Event	6	R	Security Audit (HITSP/SC109)	R
Request Medical Knowledge	7	CAP130-[102]	Knowledge and Vocabulary (HITSP/SC111)	R

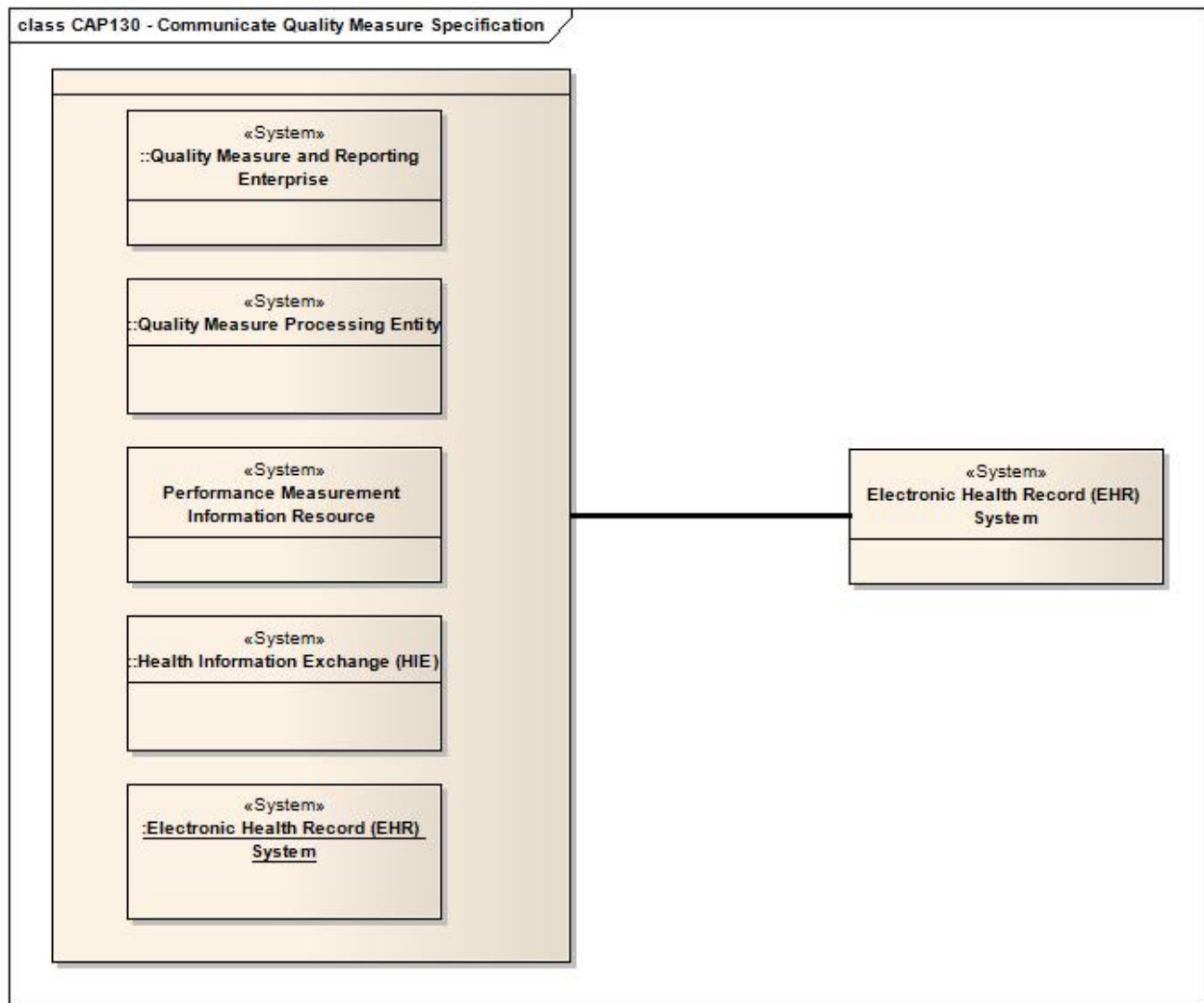
Table 3-81 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP130-[101]	System shall support at least one of these interfaces
CAP 130-[102]	This may be optionally used to deliver HITSP/C106 content. Other ways of transmitting HITSP/C106 are permissible (e.g. email) as this is not patient-specific content
CAP 130-[201]	Shall be applied where non-repudiation required by policy

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.



Figure 3-15 HITSP/CAP130 – Communicate Quality Measure Specification Visual Overview



3.15.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.16 HITSP/CAP131 – UPDATE IMMUNIZATION REGISTRY SPECIFICATION

3.16.1 OVERVIEW

This Capability addresses interoperability requirements that enable electronic communication of immunization data among clinicians, with patients, and with immunization registries as unsolicited structured patient immunization data.

This Capability may use content anonymization.



3.16.2 DESIGN SPECIFICATION

3.16.2.1 INTERACTING SYSTEMS

Table 3-82 Interacting Systems

Interacting Systems
Health Information Exchange (HIE)
Immunization Information System (IIS)
Electronic Health Record System (EHR)

3.16.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-83 Constraints and Assumptions

Constraint	Type of Constraint
Public Health system or stakeholder has a number of related components, including IIS. Most IIS are under state (or regional) Public Health Jurisdiction. In addition, Public Health has national, state and regional components	Assumption
Registries may or may not choose to receive data from PHRs or HIE connection	Assumption
Adult immunization handling may be different (e.g., some immunization registries will not accept adult immunizations)	Assumption
The registry may or may not be the same system for routine vs. emergency reporting	Assumption
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition
Policies exist authorizing registries to exchange information	Pre-condition
Immunization knowledge providers distribute immunization schedules for incorporation into IIS, other registries, EHR systems and possibly health information exchange New immunization schedule is announced and received	Trigger
Registries, including IISs, gather vaccine or drug administration information from clinicians, consumers, other registries and other organizations A vaccine has been administered <ul style="list-style-type: none">• Consumer or provider needs/wants to send information to registry (e.g., new patient, an encounter, PHR)• Registries have negotiated an exchange of immunization information, and there is new data since the last exchange (for periodic exchange agreements) A vaccine has been administered to a patient from another IIS Registry jurisdiction	Trigger
A vaccine is given	Trigger

3.16.2.3 LIST OF CONSTRUCTS

Table 3-84 List of Constructs

Construct	Description
HITSP/C72 – Immunization Message	The HITSP Immunization Message Component provides the Capability to communicate an update to a patient's vaccination record. It is based upon the Centers for Disease Control and Prevention Implementation Guide for Immunizations Data Transaction using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol Implementation Guide Version 2.2 June 2006
HITSP/SC110 – Patient Identification Management	The HITSP Patient Identification Management Service Collaboration provides the ability to lookup and/or cross-reference patient identities.
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs
HITSP/T24 – Pseudonymization Request	The HITSP Pseudonymize Transaction describes a framework for including Pseudonymization Services where the use of "dummy" or pseudo references to specific patients or providers is required. Pseudo-identifiers are intended to allow accessibility to clinical information, while safeguarding any information that may compromise the privacy of the individual patient or provider. Using pseudo-identifiers can assist in compliance with HIPAA regulations regarding suppression of patient identification information



3.16.2.4 SPECIFIED INTERFACES

Table 3-85 HITSP/CAP131 – Update Immunization Registry Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ²⁹
Content Consumer	1	O	Vaccination Message (HITSP/C72)	R
Content Creator	2	R	Vaccination Message (HITSP/C72)	R
		CAP131-[102]	Pseudonymization Request(T24)	R
Message Receiver	3	CAP131-[100], [101]	Vaccination Message (HITSP/C72)	R
Message Sender	4	CAP131-[100]	Vaccination Message (HITSP/C72)	R
Request Patient Identification	5	R	Patient Identification Management (HITSP/SC110)	R
Request HL7 Message	6	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	7	R	HL7 Messaging (HITSP/SC115)	R

Table 3-86 Interface Conditions and T/TP/SC/Content Optionality

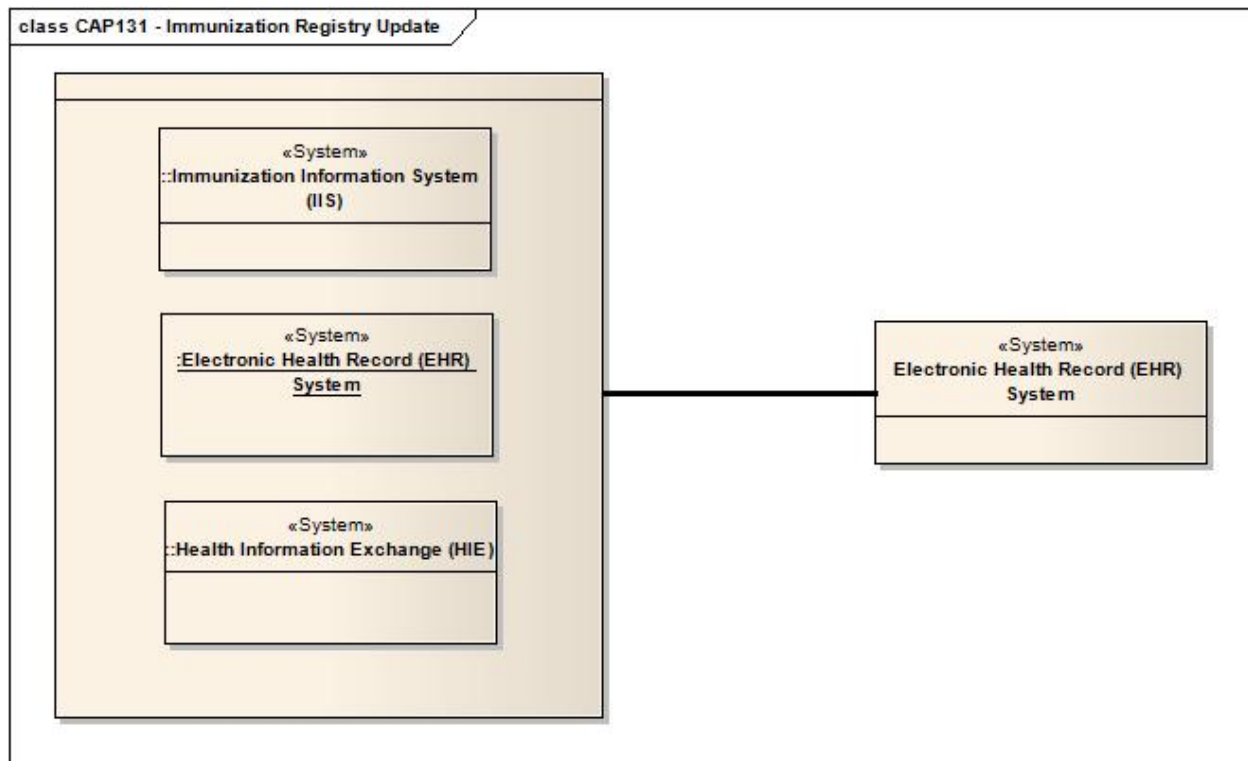
Condition Code	Condition Description
CAP131-[100]	Shall be applied for message-based vaccination query/response (VXQ/VXR) or submissions (VXU)
CAP131-[101]	System shall support at least one of these interfaces to receive or retrieve inbound content
CAP131-[102]	Shall be applied where pseudonymization is required by the jurisdiction or information sharing agreements or selected by PHR

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

²⁹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-16 HITSP/CAP131 – Update Immunization Registry Visual Overview



3.16.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.17 HITSP/CAP132 – RETRIEVE IMMUNIZATION REGISTRY INFORMATION SPECIFICATION

3.17.1 OVERVIEW

This Capability addresses interoperability requirements that support the query and retrieval of structured immunization data related to a patient's vaccination.

The Capability may use one of the following:

- HL7V2 query with implicit Patient Identity resolution
- HL7V2 query with explicitly Patient Identity resolution prior to query
- HL7V3 Query for Existing Data

The query for immunization documents from HITSP/CAP133 Communicate Immunization Summary may also be used.

3.17.2 DESIGN SPECIFICATION

This Capability addresses interoperability requirements that support the query and retrieval of structured immunization data related to a patient's vaccination.

The Capability may use one of the following:



- HL7V2 query with implicit Patient Identity resolution
- HL7V2 query with explicitly Patient Identity resolution prior to query
- HL7V3 Query for Existing Data

The query for immunization documents from HITSP/CAP133 Communicate Immunization Summary may also be used.

3.17.3 DESIGN SPECIFICATION

3.17.3.1 INTERACTING SYSTEMS

Table 3-87 Interacting Systems

Interacting Systems
Health Information Exchange (HIE)
Immunization Information System (IIS)
Electronic Health Record (EHR) System
Personal Health Record (PHR) System

3.17.3.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-88 Constraints and Assumptions

Constraint	Type of Constraint
A separate registry may be used for routine or emergency reporting	Assumption

3.17.3.3 LIST OF CONSTRUCTS

Table 3-89 List of Constructs

Construct	Description
HITSP/C70 – Immunization Query and Response	The HITSP Immunization Query and Response Component is used for a message based exchange of immunization information. It specifies the use of HL7 Version 2.3.1 Query for Vaccination Record (VXQ), to send a query from the message sender (clinician system, schools, IIS) to the message receiver (immunization registry)
HITSP/C88 – Anonymize Immunizations and Response Management Data	The HITSP Anonymize Immunizations and Response Management Data Component provides the ability to anonymize patient identifiable information for Immunization and Response Management. It provides specific instruction for anonymizing data that was created as part of routine clinical care delivery in preparation for repurposing the data. Anonymization, according to the International Organization for Standardization (ISO), is the process that removes the association between the identifying data set and the data subject
HITSP/SC110 – Patient Identification Management	The HITSP Patient Identification Management Service Collaboration provides the ability to lookup and/or cross-reference patient identities
HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. This Service Collaboration applies the necessary Security and Privacy constructs

3.17.3.4 SPECIFIED INTERFACES

Table 3-90 HITSP/CAP132 – Retrieve Immunization Registry Information Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁰
Message Sender	1	CAP132-[100], [101]	Vaccination Query Message(HITSP/C70)	R
			Vaccination Response Message(HITSP/C70)	O

³⁰ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



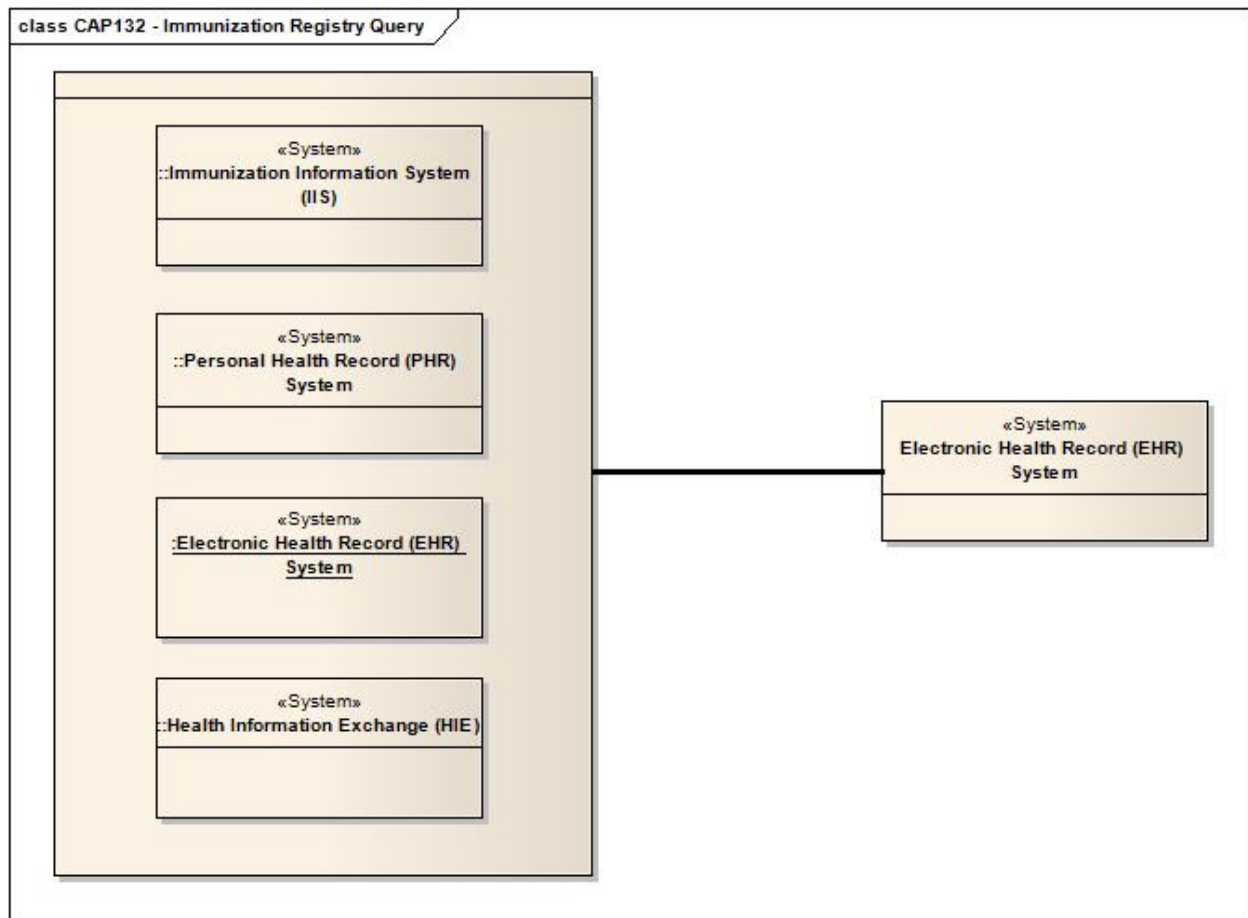
Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁰
Message Receiver	2	CAP132- [100], [102]	Vaccination Query Message (HITSP/C70)	O
			Vaccination Response Message (HITSP/C70)	R
Content Creator	3	CAP132- [103]	Vaccination Query Message (VXQ/VXR) (Query)(HITSP/C70)	R
			Vaccination Query Message (VXQ/VXR) (Response) (HITSP/C70)	O
		CAP132- [104]	Anonymize for IRM (HITSP/C88)	R
Content Consumer	4	CAP132- [103]	Vaccination Query Message (VXQ/VXR) (Query)(HITSP/C70)	O
			Vaccination Query Message (VXQ/VXR) (Response) (HITSP/C70)	R
Request HL7 Message	6	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	7	R	HL7 Messaging (HITSP/SC115)	R
Request Patient Identification	8	R	Patient Identification Management (HITSP/SC110)	R

Table 3-91 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP132-[100]	Shall be applied for message-based vaccination query/response (VXQ/VXR) or submissions (VXU)
CAP132-[101]	System shall support at least one of these interfaces to communicate outbound content
CAP132-[102]	System shall support at least one of these interfaces to receive or retrieve inbound content
CAP132-[103]	One or both of these shall be applied for vaccination query/response
CAP132-[104]	Shall be applied where anonymization is required by the jurisdiction or information sharing agreements or selected by PH



Figure 3-17 HITSP/CAP132 – Retrieve Immunization Registry Information Visual Overview



3.17.3.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.18 HITSP/CAP133 – COMMUNICATE IMMUNIZATION SUMMARY SPECIFICATION

3.18.1 OVERVIEW

This Capability addresses interoperability requirements to support the communication of structured health data related to a patient's vaccination history. This immunization document contains a history of administered vaccines with details such as lot number, who administered it, as well as other information related to the patient's care such as medical history, medications, allergies, vital signs.

3.18.2 DESIGN SPECIFICATION

3.18.2.1 INTERACTING SYSTEMS

Table 3-92 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Personal Health Record (PHR) System
Health Information Exchange (HIE)



Interacting Systems
Immunization Information System (IIS)

3.18.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-93 Constraints and Assumptions

Constraint	Type of Constraint
Immunization Information Systems may choose to not receive data from PHRs or HIE connection	Assumption
Adult immunization handling may be different (e.g., some immunization registries will not accept adult immunizations)	Assumption
The IIS may not be the same system for routine vs. emergency reporting	Assumption
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition
Registries, including IISs, gather vaccine or drug administration information from clinicians, consumers, other registries and other organizations <ul style="list-style-type: none"> • A vaccine has been administered • Consumer or provider needs/wants to send information to registry (e.g., new patient, an encounter, PHR) • Registries have negotiated an exchange of immunization information, and there is new data since the last exchange (for periodic exchange agreements) • A vaccine has been administered to a patient from another IIS Registry jurisdiction 	Trigger
Content of the immunization documentation from the PHR may not be the same content as the Immunization Information System. Patients typically have all this detail. There may need to be more information given/reported. The consumer vaccination view limits the information provided to improve the clarity to the consumer so as to make the content consumer-friendly– e.g., remove duplicative doses)	Assumption
Document sharing can support sources of vaccine information from schools, or other entities as well as providers (e.g., camps, daycare), or from other immunization registries/jurisdictions	Assumption

3.18.2.3 LIST OF CONSTRUCTS

Table 3-94 List of Constructs

Construct	Description
HITSP/C26 – Nonrepudiation of Origin	The HITSP Nonrepudiation of Origin Component provides the mechanisms to support Nonrepudiation of Origin, which refers to both the proof of the integrity and origin of documents in a high-assurance manner, which can be verified by any party. This Component does not provide Nonrepudiation of Receipt
HITSP/C78 – Immunization Document	The HITSP 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/C88 – Anonymize Immunizations and Response Management Data	The HITSP Anonymize Immunizations and Response Management Data Component provides the ability to anonymize patient identifiable information for Immunization and Response Management. It provides specific instruction for anonymizing data that was created as part of routine clinical care delivery in preparation for repurposing the data. Anonymization, according to the International Organization for Standardization (ISO), is the process that removes the association between the identifying data set and the data subject
HITSP/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)



3.18.2.4 SPECIFIED INTERFACES

Table 3-95 HITSP/CAP133 – Communicate Immunization Summary Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³¹
Content Creator	1	R	Immunization Content (HITSP/C78)	R
	2	CAP133-[103]	Anonymize for IRM (HITSP/C88)	R
	3	O	Nonrepudiation (HITSP/C26)	R
Content Consumer	4	R	Immunization Content (HITSP/C78)	R
Receive Documents	5	CAP133-[101]	Healthcare Document Management (HITSP/SC112)	R
Send Documents	6	CAP133-[101], [102]	Healthcare Document Management (HITSP/SC112)	R

Table 3-96 Interface Conditions and T/TP/SC/Content Optionality

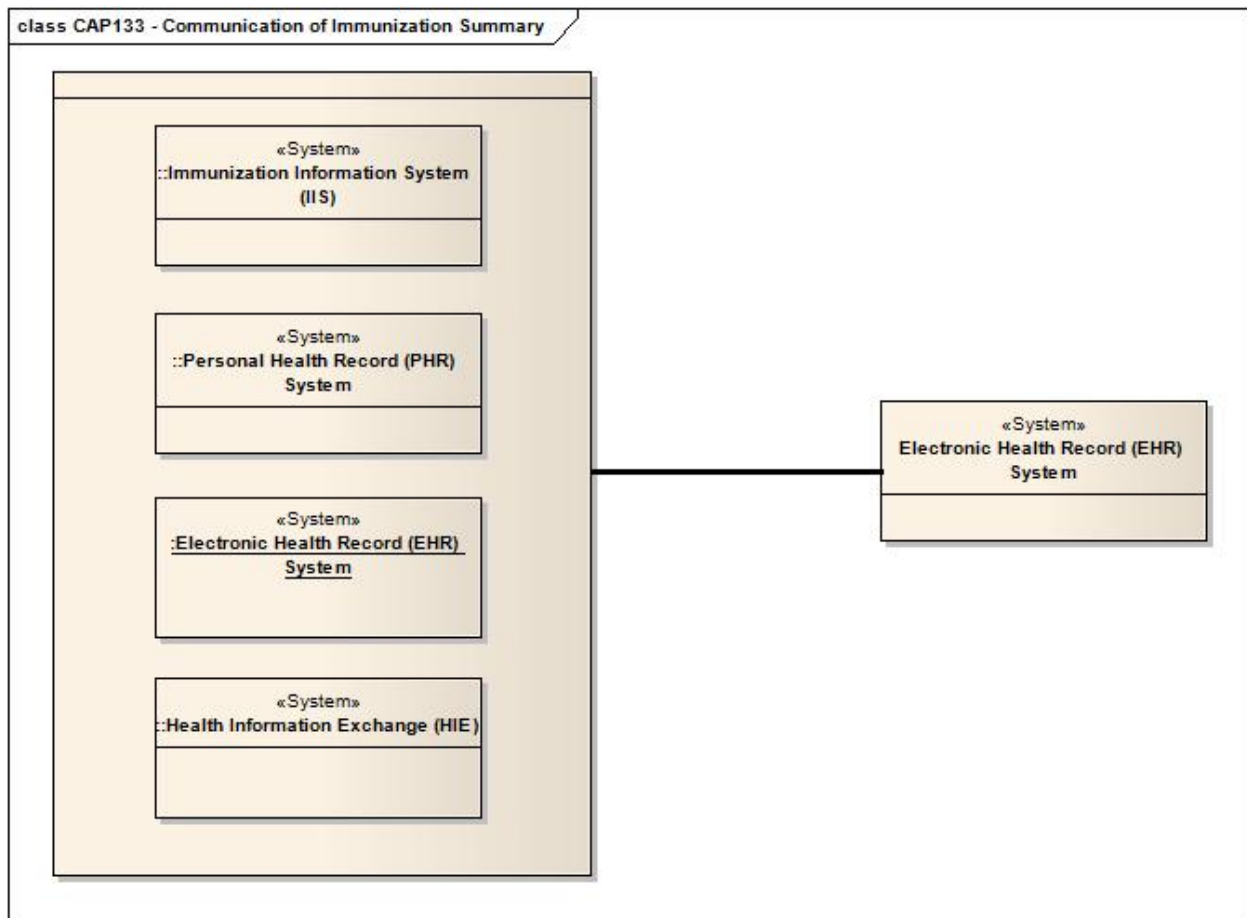
Condition Code	Condition Description
CAP133-[101]	An implementation shall choose amongst one of the interfaces defined in HITSP/SC112 Healthcare Document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP133-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management
CAP133-[103]	Shall be applied where anonymization is required by the jurisdiction or information sharing agreements or selected by PH

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

³¹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-18 HITSP/CAP133 – Communicate Immunization Summary Visual Overview



3.18.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.19 HITSP/CAP135 – RETRIEVE AND POPULATE FORM SPECIFICATION

3.19.1 OVERVIEW

This Capability addresses interoperability requirements to support the upload of specific captured data (e.g., public health surveillance reportable conditions, healthcare associated infection reporting) to Public Health Monitoring Systems and Quality Organizations Systems. The forms presented may be pre-populated by information provided by the clinical or laboratory information systems to avoid manual re-entry. A number of supplemental information variables may be captured from within the user's clinical information system to improve the workflow and timeliness of required reporting. One or more types of form content may be supported:

- Pre-population for Public Health Case Reports from Structured Documents using CDA
- Pre-population for Quality Data from Structured Documents using CDA
- No pre-population content

Systems may optionally support the means to retrieve request for clarifications.



3.19.2 DESIGN SPECIFICATION

3.19.2.1 INTERACTING SYSTEMS

Table 3-97 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Health Information Exchange (HIE)
Public Health Information System
Clinical Information System
Laboratory Information System
Radiology Information System
Quality Measure and Reporting System
Quality Measure Processing Entities

3.19.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-98 Constraints and Assumptions

Constraint	Type of Constraint
Medical judgment may need attestation from the clinician; post-marketing situations may have certain tracking/PH response or severity-based decisions (clinician may look at this and determine other potential reasons for a false positive – and rules out a case). May need clinician validation/human judgment to kick off a next step. There may be a cascade of trigger events – there may be limited knowledge as to how to respond to a trigger event	Assumption
Forms is a very ambiguous word – we may have assumptions surrounding the interpretations. The common aspect is XML	Assumption
Need to consider reporting workflow: ID, review, report	Assumption
Need to consider workflow management: Optionality for human review; review /comment/ modification option before sending	Assumption
Need to support various reporting users: User may be clinician or office staff/hospital staff (e.g. stand-alone infection control applications, clinical registries, etc.)	Assumption
Authorizations for capture of supplemental data are defined by jurisdiction	Assumption
Augmentation mechanisms require appropriate authorizations: Not just PH agencies, but clinicians that may be reaching out in various ways to capture data that may not have been available in original data source	Assumption
Assume that confirm means that clinician confirms transmission in that point in time. Clinician may be able to gather info from a PHR	Assumption
The entity that needs to receive/file the report is determined by jurisdiction or domain policy agreements	Assumption
Trans-border communication expectations/specifications and mutual reporting are specified by policy	Assumption
Security/communications policies between institutions are established using established standards for trust management, risk assessment and cross-jurisdiction information exchange	Assumption
Secure communications are in place, and all policy, compliance, and authorization issues are addressed through automated or manual means	Pre-condition
The receiving Information System has received the submitted data	Post-condition
<ul style="list-style-type: none"> Terminology mapping is required Assume that there may be a statistician encoding the rules Transformation mapping Assume that the implementation of the mathematical formula is not specified in the Interoperability Specification and is left to product innovation 	Assumption
The EHR is a resource for structured data	Assumption
Whether or not data are manually entered, the transaction must use the standards	Assumption



Constraint	Type of Constraint
Data augmentation may be accomplished through additional electronic queries	Assumption
Data are ready for submission to recipient	Process Trigger

3.19.2.3 LIST OF CONSTRUCTS

Table 3-99 List of Constructs

Construct	Description
HITSP/C105 – Patient Level Quality Data Document Using HL7 Quality Reporting Document Architecture (QRDA)	The HITSP Patient Level Quality Data Document Using HL7 Quality Reporting Document Architecture (QRDA) Component supports the communication of patient level quality data for quality measurement in a document sharing environment. Patient encounter data are compiled from both the local systems and from longitudinal data available through a Health Information Exchange (HIE) prior to communicating the retrieved data described in this construct for analysis.
HITSP/C26 – Nonrepudiation of Origin	The HITSP Nonrepudiation of Origin Component provides the mechanisms to support Nonrepudiation of Origin, which refers to both the proof of the integrity and origin of documents in a high-assurance manner, which can be verified by any party. This Component does not provide Nonrepudiation of Receipt
HITSP/C76 – Case Report Pre-Populate	The HITSP Case Report Pre-Populate Component supports the Data Mapping needed for Public Health Case Reports. Initially the Component supports only those data attributes that are universal or pertain to Drug Safety reporting. For those attributes that are universal in case reporting, this component may be used in support of pre-populating the remaining report types. However, other public health specific attributes will be addressed in subsequent releases
HITSP/SC108 – Access Control	The HITSP Access Control Service Collaboration 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
HITSP/SC109 – Security Audit	The HITSP Security Audit Service Collaboration describes the mechanism to record security relevant events in support of policy, regulation, or risk analysis. It also provides the mechanism to determine the record format to support analytical reports that are needed
HITSP/TP50 – Retrieve Form for Data Capture	The HITSP Retrieve Form for Data Capture Transaction Package enables capture of supplemental data variables not typically maintained in an electronic health record or laboratory information system through a more seamless integration with the local information system. This allows for the local system to retrieve a form specific to the identified potential public health threat. In the context of quality, it allows for the local system to capture supplemental data elements required for quality reporting that may not be available to the electronic health record

3.19.2.4 SPECIFIED INTERFACES

Table 3-100 HITSP/CAP135 – Retrieve and Populate Form Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality
Form Filler	1	CAP135-[101]	Retrieve Form (HITSP/TP50)	R
			Submit Form (HITSP/TP50)	R
			Archive Form (HITSP/TP50)	O
			Retrieve Clarifications (HITSP/TP50)	O
			Patient Level Quality Data (HITSP/C105)	O
			Healthcare Associated Infection Report (HITSP/C75)	O
			Case Report Pre-Populate (HITSP/C76)	O
			Nonrepudiation of Origin (HITSP/C26)	CAP135-[202]
Form Manager (Option for CIS supporting form management locally)	2	CAP135-[101]	Retrieve Form (HITSP/TP50)	R
			Retrieve clarifications (HITSP/TP50)	R
			Patient-Level Quality Data (HITSP/C105)	O
			Case Report Pre-Populate (HITSP/C76)	O



Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality
			Healthcare Associated Infection Report (HITSP/C75)	O
			Nonrepudiation of Origin (HITSP/C26)	CAP135-[202]
Form Receiver (Option for CIS supporting form management locally)	3	CAP135-[101]	Submit Form (HITSP/TP50)	R
			Patient Level Quality Data (HITSP/C105)	O
			Case Report Pre-Populate (HITSP/C76)	O
			Healthcare Associated Infection Report (HITSP/C75)	O
			Nonrepudiation of Origin (HITSP/C26)	CAP135-[202]
Form Archiver (Option for CIS supporting form management locally)	4	CAP135-[101]	Archive Form (HITSP/TP50)	R
			Patient Level Quality Data (HITSP/C105)	O
			Case Report Pre-Populate (HITSP/C76)	O
			Healthcare Associated Infection Report (HITSP/C75)	O
			Nonrepudiation of Origin (HITSP/C26)	CAP135-[202]
Node	5	R	Secured Communication Channel (HITSP/T17)	R
Request Access Control Decision	6	R	Access Control (HITSP/SC108)	CAP135-[201]
Send Security Audit Event	7	R	Security Audit (HITSP/SC109)	R

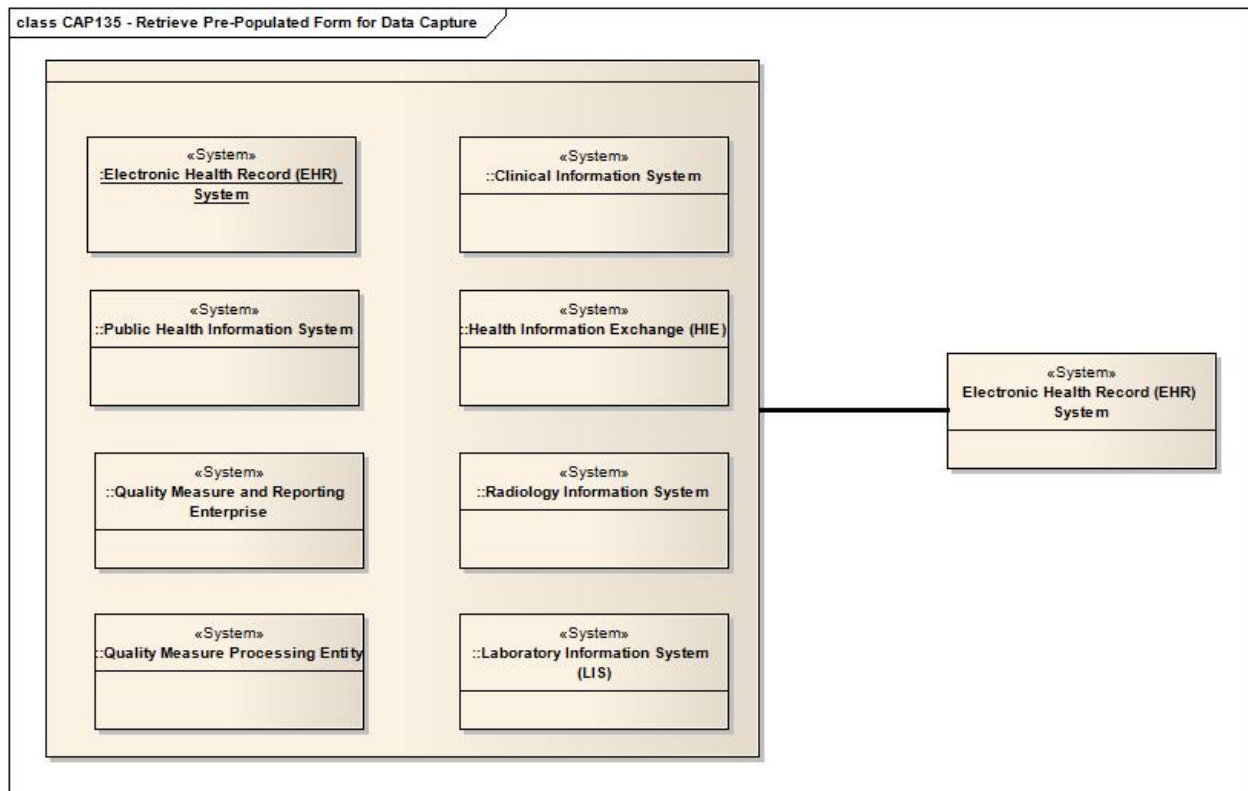
Table 3-101 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP135-C[101]	An implementation shall choose amongst one or more of the interfaces. This choice is dependent on the topology chosen, the physical limitations, policies and processes of the implementation
CAP135-C[201]	HITSP/C19 shall be applied where Entity Identity Assertion is required by the jurisdiction or information sharing agreements
CAP135-C[202]	Shall be applied where nonrepudiation is required by the jurisdiction or information sharing agreements

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.



Figure 3-19 HITSP/CAP135 – Retrieve and Populate Form Visual Overview



3.19.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.20 HITSP/CAP136 – COMMUNICATE EMERGENCY ALERT SPECIFICATION

3.20.1 OVERVIEW

This Capability addresses interoperability requirements to support multicast of non-patient specific notification messages about emergencies events, alerts concerning incidence of communicable diseases, alerts concerning population needs for vaccines and other generic alerts sent to an identified channel. The intended recipients are populations such as “all emergency departments in XXX county”, “within a geographic area”, etc. In the event that patient specific emergency alerting is required, other Capabilities such as HITSP/CAP120 Communicate Unstructured Document or HITSP/CAP122 Retrieval of Medical Knowledge Capability may be used (See HITSP/IS10 Section 3.2.2).

3.20.2 DESIGN SPECIFICATION

3.20.2.1 INTERACTING SYSTEMS

Table 3-102 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Emergency Communications System



3.20.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-103 Constraints and Assumptions

Constraint	Type of Constraint
Behavior and Policy of PSO is defined by jurisdiction	Assumption
Authorizations for capture of supplemental data are defined by jurisdiction	Assumption
The entity that needs to receive/file the report is determined by jurisdiction or domain policy agreements	Assumption
Trans-border communication expectations/specifications and mutual reporting are specified by policy	Assumption
Case count is not the priority/purpose here – goal is to manage/contain event not to produce a case count	Assumption
Assume that the perspective addresses both National and local jurisdiction; Local PH jurisdiction perspective may differ from CDC perspective	Assumption
Policy considerations apply to exposure notifications and IRB/research authorization	Assumption
Jurisdiction or HIE Policy may impose information exchange restrictions for some of these communications if electronic	Assumption
Authentication service to authenticate requestors and/or data submissions from various locations	Pre-condition

3.20.2.3 LIST OF CONSTRUCTS

Table 3-104 List of Constructs

Construct	Description
HITSP/C82 – Emergency Common Alerting Protocol	The HITSP Emergency Common Alerting Protocol Component selects the OASIS Common Alerting Protocol (CAP) v1.1 standard, and is used as a multicast notification message sent to an identified channel. The intended recipients are populations such as “all emergency departments in XXX county”, “within a geographic area”, etc
HITSP/SC116 – Emergency Message Distribution Element	The HITSP Emergency Message Distribution Service Collaboration performs a multicast notification to specifically identified populations, such as emergency departments

3.20.2.4 SPECIFIED INTERFACES

Table 3-105 HITSP/CAP136 – Communicate Emergency Alert Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³²
Alert Message Transmitter	1	R	Send Message (HITSP/C82)	R
Alert Message Receiver	2	R	Receive Message (HITSP/C82)	R
Send Emergency Message Distribution Element	3	R	Emergency Message Distribution Element (HITSP/SC116)	R

Table 3-106 Interface Conditions and T/TP/SC/Content Optionality

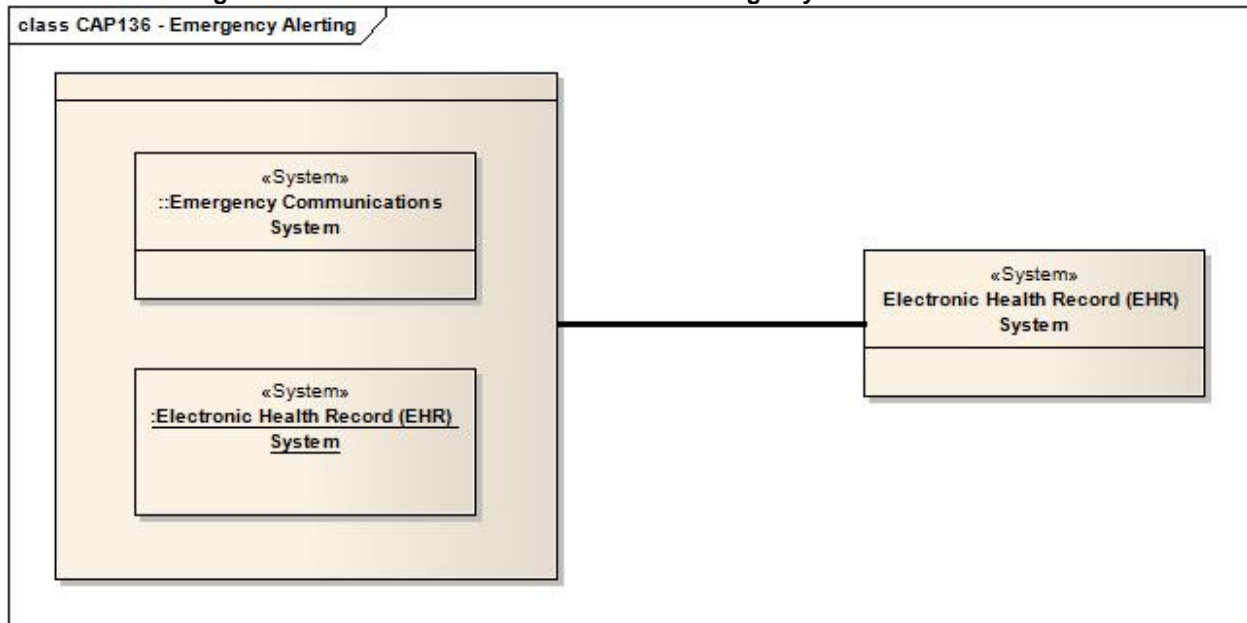
Condition Code	Condition Description
No Applicable Condition Codes	

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

³² Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-20 HITSP/CAP136 – Communicate Emergency Alert Visual Overview



3.20.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.21 HITSP/CAP137 – COMMUNICATE ENCOUNTER INFORMATION MESSAGE SPECIFICATION

3.21.1 OVERVIEW

This Capability addresses interoperability requirements to send specific clinical encounter data among multiple systems.

The content may be either or both:

1. Encounter Data Message
2. Radiology Results Message

It may be used in conjunction with other Capabilities such as those related to the communication of laboratory data. This Capability includes optional anonymization of content.



3.21.2 DESIGN SPECIFICATION

3.21.2.1 INTERACTING SYSTEMS

Table 3-107 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Clinical Information System, Laboratory Information System, Radiology Information System
Diagnostic Imaging Information System
Health Information Exchange
Personal Health Record (PHR) System
Public Health Agencies (includes Local/State/Federal)
Emergency Operations Center (EOC)
Emergency Communications System
Healthcare Delivery Organization, Regional Health Information Organizations (RHIO))

3.21.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-108 Constraints and Assumptions

Constraint	Type of Constraint
Machine-generated Radiology Results are included in data requirements for Lab Results	Assumption
Visit data are likely to be supplied through the admitting/registration system	Assumption
Radiology and laboratory clinical orders are available electronically, may be used, and contain information describing patients and the types of clinical tests requested	Pre-condition
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition
The receiving system has received the submitted data	Post-condition

3.21.2.3 LIST OF CONSTRUCTS

Table 3-109 List of Constructs

Construct	Description
HITSP/C25 – Anonymize	The HITSP Anonymize Component provides specific instruction for anonymizing data that are prepared for repurposing data created as part of routine clinical care delivery. This construct defines the Component specification that provides the ability to anonymize patient identifiable information
HITSP/C39 – Encounter Message	The HITSP Encounter Message Component supports the process of sending patient encounter data (excluding laboratory results and radiology reports) from a Biosurveillance Message Sender to a Biosurveillance Message Receiver. 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/C41 – Radiology Result Message	The HITSP 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/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the Capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs



3.21.2.4 SPECIFIED INTERFACES

Table 3-110 HITSP/CAP137 – Communicate Encounter Information Message Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/SC/Content Optionality ³³
Message Sender	1	CAP137-[101]	Send Message (HL7)	R
			Receive Ack (HL7)	R
Message Receiver	2	CAP137-[101]	Receive Message (HL7)	R
			Send Ack (HL7)	R
Content Creator	3	R	Encounter Message (HITSP/C39)	CAP137-[201]
			Radiology Result Message (HITSP/C41)	CAP137-[201]
			Anonymize (HITSP/C25)	CAP137-[202]
Request HL7 Message	4	R	HL7 Messaging (HITSP/SC115)	R
Respond to HL7 Message	5	R	HL7 Messaging (HITSP/SC115)	R

Table 3-111 Interface Conditions and T/TP/SC/Content Optionality

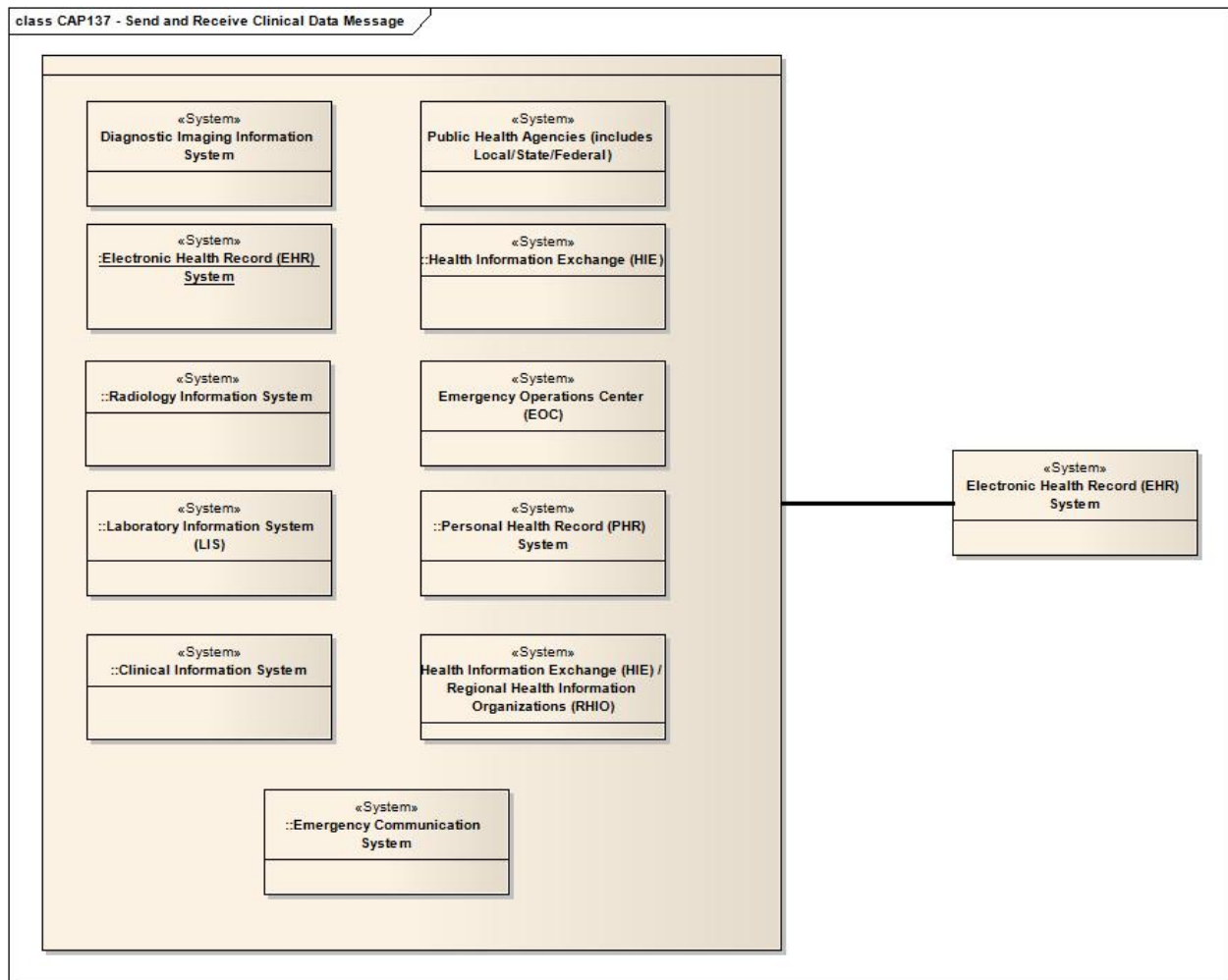
Condition Code	Condition Description
CAP137-[101]	The system shall support at least one of these interfaces
CAP137-[201]	At least one of these constructs shall be supported
CAP137-[202]	Shall be applied where anonymization is required by the jurisdiction or information sharing agreements

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

³³ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-21 HITSP/CAP137 – Communicate Encounter Information Message Visual Overview



3.21.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.22 HITSP/CAP138 – RETRIEVE PSEUDONYM SPECIFICATION

3.22.1 OVERVIEW

This Capability addresses interoperability requirements to support a particular type of anonymization that both removes the association with a data subject, and adds an association between a particular set of characteristics relating to the data subject and one or more pseudonyms. This enables a process of supplying an alternative identifier, which permits a patient to be referred to by a key that suppresses his/her actual identification information. The purpose of this Capability is to offer a pseudonymization framework for situations that require the use of specific data without disclosing the specific identity of patients or providers. Pseudo-identifiers are intended to allow accessibility to clinical information, while safeguarding any information that may compromise the privacy of the individual patient or provider. However, unlike anonymization, the alternative identifier key can be used to re-identify the individuals whose data was used.



3.22.2 DESIGN SPECIFICATION

3.22.2.1 INTERACTING SYSTEMS

Table 3-112 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Health Information Exchange (HIE)
Emergency Communications System (ECS)
Public Health Information System
Quality Measure Processing Entities
Personal Health Record (PHR) Systems
Immunization Information System (IIS)
Laboratory Information Systems

3.22.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-113 Constraints and Assumptions

Constraint	Type of Constraint
Security/communications policies between institutions are established using established standards for trust management, risk assessment and cross-jurisdiction information exchange	Assumption
Re-identification of pseudonymized data as needed is authorized	Assumption
Security standard selection must be done in accordance with HIPAA and based upon the risk assessment for the selected architecture	Assumption
Data to be pseudonymized is not anonymized	Pre-condition
Security and Privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient privacy and security	Pre-condition
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect and Secure communications are in place, and all policy, compliance, and authorization issues are addressed through automated or manual means	Pre-condition
All re-identification events for Pseudonymized quality data shall record the re-identification purpose from the list provided in section 5.3.1 of ISO TS25237 Health Informatics: Pseudonymization	Pre-condition
Policy for re-linking is defined	Pre-condition
Patient level data requires pseudonymization by policy	Trigger

3.22.2.3 LIST OF CONSTRUCTS

Table 3-114 List of Constructs

Construct	Description
HITSP/T24 – Pseudonymize	The HITSP Pseudonymize Transaction describes a framework for including Pseudonymization Services where the use of “dummy” or pseudo references to specific patients or providers is required. Pseudo-identifiers are intended to allow accessibility to clinical information, while safeguarding any information that may compromise the privacy of the individual patient or provider. Using pseudo-identifiers can assist in compliance with HIPAA regulations regarding suppression of patient identification information



3.22.2.4 SPECIFIED INTERFACES

Table 3-115 HITSP/CAP138 – Retrieve Pseudonym Specified Interfaces

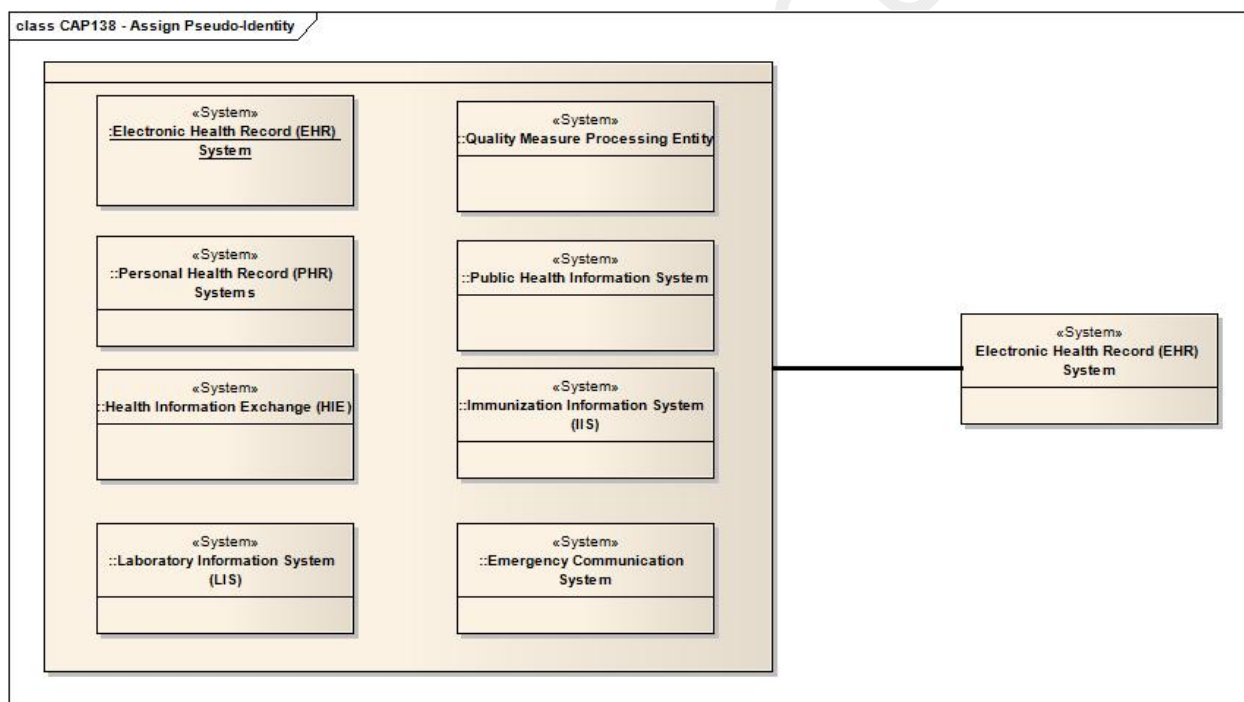
Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁴
Pseudonymization Service	1	CAP138-[101]	Pseudonymization Request (HITSP/T24)	R
Person Identification Service	2	CAP138-[101]	Person Identity Feed (HITSP/T24)	R
Content Creator	3	CAP138-[101]	Pseudonymization Request (HITSP/T24)	R

Table 3-116 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP138-[101]	Shall be applied where pseudonymization is required by the jurisdiction or information sharing agreements

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-22 HITSP/CAP138 – Retrieve Pseudonym Visual Overview



3.22.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

³⁴ Optionality = "R" for Required, "R2" for Required if known, "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



3.23 HITSP/CAP139 – COMMUNICATE RESOURCE UTILIZATION SPECIFICATION

3.23.1 OVERVIEW

This Capability specifies the message and content necessary to report utilization and status of health provider resources to systems supporting emergency management officials at local, state or national levels who have a need to know the availability of hospital and other healthcare resources. The resource utilization information may be provided routinely or in response to a request.

3.23.2 DESIGN SPECIFICATION

3.23.2.1 INTERACTING SYSTEMS

Table 3-117 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Emergency Communications System

3.23.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-118 Constraints and Assumptions

Constraint	Type of Constraint
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition

3.23.2.3 LIST OF CONSTRUCTS

Table 3-119 List of Constructs

Construct	Description
HITSP/C47 – Resource Utilization Message	The HITSP Resource Utilization Message Component specifies the message and content necessary to report utilization and status of health provider resources to public health agencies. This specification reflects the current status of harmonization efforts between HL7 and OASIS
HITSP/SC116 – Emergency Message Distribution Element	The HITSP Emergency Message Distribution Service Collaboration performs a multicast notification to specifically identified populations, such as emergency departments

3.23.2.4 SPECIFIED INTERFACES

Table 3-120 HITSP/CAP139 – Communicate Resource Utilization Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/SC/Content Optionality ³⁵
Content Creator	1	R	Resource Utilization (HITSP/C47)	CAP139-[201]
Content Consumer	2	R	Resource Utilization (HITSP/C47)	CAP139-[201]
Send Emergency Message Distribution Element	3	R	Emergency Message Distribution Element (HITSP/SC116)	R

Table 3-121 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
CAP139-[201]	For systems reporting bed availability, system shall support HITSP Resource Utilization Component

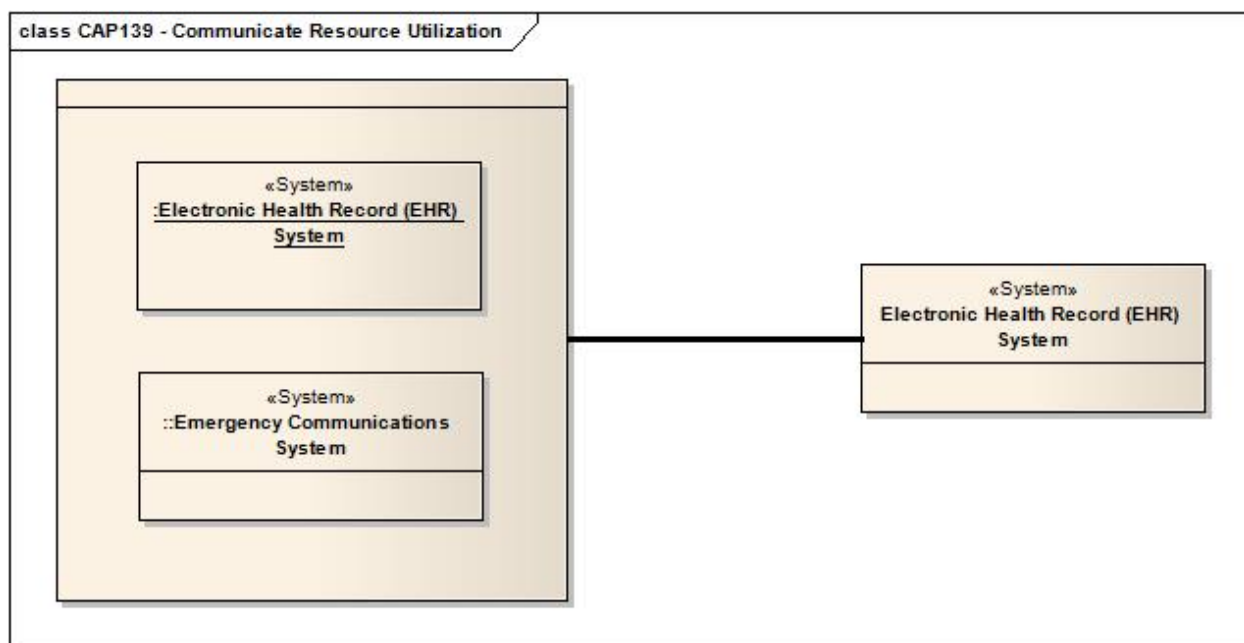
The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow

³⁵ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-23 HITSP/CAP139 – Communicate Resource Utilization Visual Overview



3.23.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.24 HITSP/CAP140 – COMMUNICATE BENEFITS AND ELIGIBILITY SPECIFICATION

3.24.1 OVERVIEW

This Capability addresses interoperability requirements that support electronic inquiry and response from a patient's eligibility for health insurance benefits. The information exchanged includes the following:

1. A patient's identification (i.e., name, date of birth, and the health plan's member identification number)
2. Communication of a member's status of coverage and benefit information and financial liability
3. Access to information about types of services, benefits and coverage for various medical care and medications

It provides clinicians with information about each member's health insurance coverage and benefits.



3.24.2 DESIGN SPECIFICATION

3.24.2.1 INTERACTING SYSTEMS

Table 3-122 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Provider Administrative and Financial System
Health Plan System
Electronic Health Record (EHR) – Hospital
Electronic Health Record (EHR) – Hospital and EHR LTC
Pharmacy Systems
Pharmacy Systems – Hospital and Pharmacy Systems – External
Health Care Entities (for LTC)
Health Information Exchange (HIE)
PBM/Payers System

3.24.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-123 Constraints and Assumptions

Constraint	Type of Constraint
Patient Identities (name demographics etc.) are known and are consistent with policies. In this regard, it is expected that the Health Plan's member ID is known and related to the Provider's Finance & Admin System accordingly	Pre-condition
Health Information Exchange (HIE) can serve as intermediary for data in many implementation variants. The various alternative options are not shown	Assumption
Entities have pre-established a business relationship to exchange information	Pre-condition
Authentication service to authenticate requestors and/or data submissions from various locations	Pre-condition
Security and privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient security and privacy	Pre-condition

3.24.2.3 LIST OF CONSTRUCTS

Table 3-124 List of Constructs

Construct	Description
HITSP/SC114 – Administrative Transport to Health Plan	The HITSP Administrative Transport to Health Plan Service Collaboration provides the transport mechanism for conducting administrative transactions with health plans
HITSP/T40 – Patient Health Plan Eligibility Verification	The HITSP 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/TP46 – Medication Formulary and Benefits Information	The HITSP Medication Formulary and Benefits Information Transaction Package addresses two tasks. The first task is to perform an eligibility check for a specific patient's pharmacy benefits. The second task is to obtain the medication formulary and benefit information



3.24.2.4 SPECIFIED INTERFACES

Table 3-125 HITSP/CAP140 – Communicate Benefits and Eligibility Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁶
Eligibility Information Receiver ³⁷	1	R	Eligibility Information Request (HITSP/T40)	R
		R	Eligibility Information Response (HITSP/T40)	R
		R	Medication and Formulary Eligibility Request (HITSP/TP46)	R
		R	Medication and Formulary Eligibility Response (HITSP/TP46)	R
Request Administrative Transport to Health Plan	2	R	Administrative Transport to Health Plan (HITSP/SC114)	R
Respond to Administrative Request to Health Plan	3	R	Administrative Transport to Health Plan (HITSP/SC114)	R

Table 3-126 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
No Applicable Condition Codes	

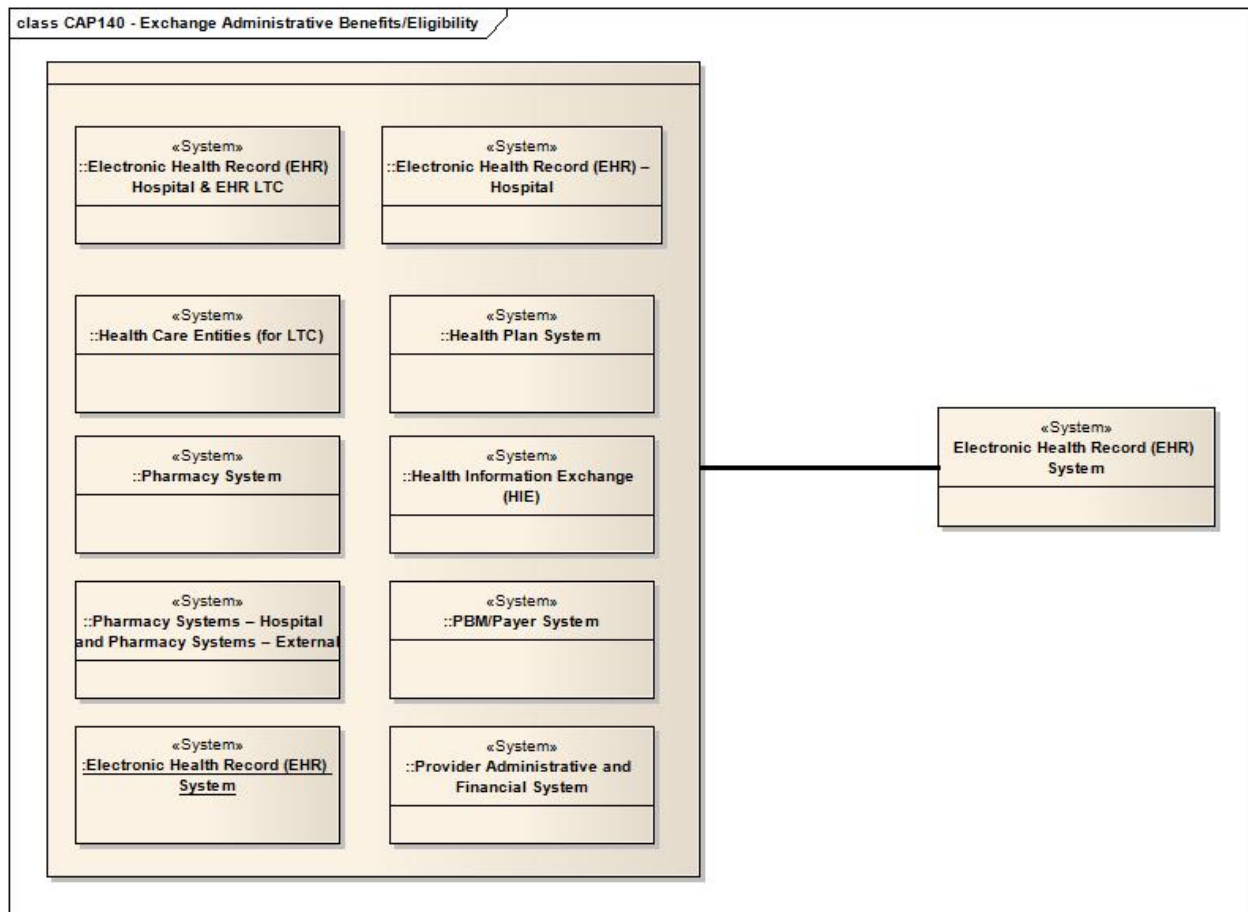
The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

³⁶ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.

³⁷ The Eligibility Information Receiver Interface may be handled via an intermediary Interacting System such as a Provider Administrative and Financial System.



Figure 3-24 HITSP/CAP140 – Communicate Benefits and Eligibility Visual Overview



3.24.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.25 HITSP/CAP141 – COMMUNICATE REFERRAL AUTHORIZATION SPECIFICATION

3.25.1 OVERVIEW

This Capability addresses interoperability requirements that support electronic inquiry and response to authorizing a patient (health plan member) to be referred for service by another provider or to receive a type of service or medication under the patient's health insurance benefits.

The Capability supports the transmittal of a patient's name and insurance identification number with the request for the type of service. It also includes the following optional requirements:

1. Identification of the type of service or medication requested for benefit coverage (does not guarantee payment by insurance provider)
2. Communication of a referral notification number or authorization number from the Payer System to the Provider System

It provides clinicians and pharmacists with information about each patient's medical insurance coverage and benefits. It may include information on referral or authorization permission.



3.25.2 DESIGN SPECIFICATION

3.25.2.1 INTERACTING SYSTEMS

Table 3-127 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Provider Administrative and Financial System
Health Plan System
Electronic Health Record (EHR) – Hospital
Electronic Health Record (EHR) – Hospital and EHR LTC
Pharmacy Systems
Pharmacy Systems – Hospital and Pharmacy Systems – External
Health Care Entities (for LTC)
Health Information Exchange (HIE)
PBM/Payers System

3.25.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-128 Constraints and Assumptions

Constraint	Type of Constraint
Patient Identities (name demographics etc.) are known and are consistent with policies. In this regard, it is expected that the Health Plan's Member Id is known and related to the Provider's Finance & Admin System accordingly	Pre-condition
Health Information Exchange (HIE) can serve as intermediary for data in many implementation variants. The various alternative options are not shown.	Assumption
Entities have pre-established a business relationship to exchange information	Pre-condition
Authentication service to authenticate requestors and/or data submissions from various locations	Pre-condition
Security and privacy policies, procedures and practices are commonly implemented to support acceptable levels of consumer/patient security and privacy	Pre-condition

3.25.2.3 LIST OF CONSTRUCTS

Table 3-129 List of Constructs

Construct	Description
HITSP/SC114 – Administrative Transport to Health Plan	The HITSP Administrative Transport to Health Plan service collaboration provides the transport mechanism for conducting administrative transactions with health plans
HITSP/T68 – Patient Health Plan Authorization Request and Response	The HITSP 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



3.25.2.4 SPECIFIED INTERFACES

Table 3-130 HITSP/CAP141 – Communicate Referral Authorization Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁸
Information Receiver for Health Plan Authorization*	1	R	Health Plan Authorization Information Request (HITSP/T68)	R
		R	Health Plan Authorization Information Response(HITSP/T68)	R
Request Administrative Transport to Health Plan	2	R	Administrative Transport to Health Plan (HITSP/SC114)	R
Respond to Administrative Request to Health Plan	3	R	Administrative Transport to Health Plan (HITSP/SC114)	R

Table 3-131 Interface Conditions and T/TP/SC/Content Optionality

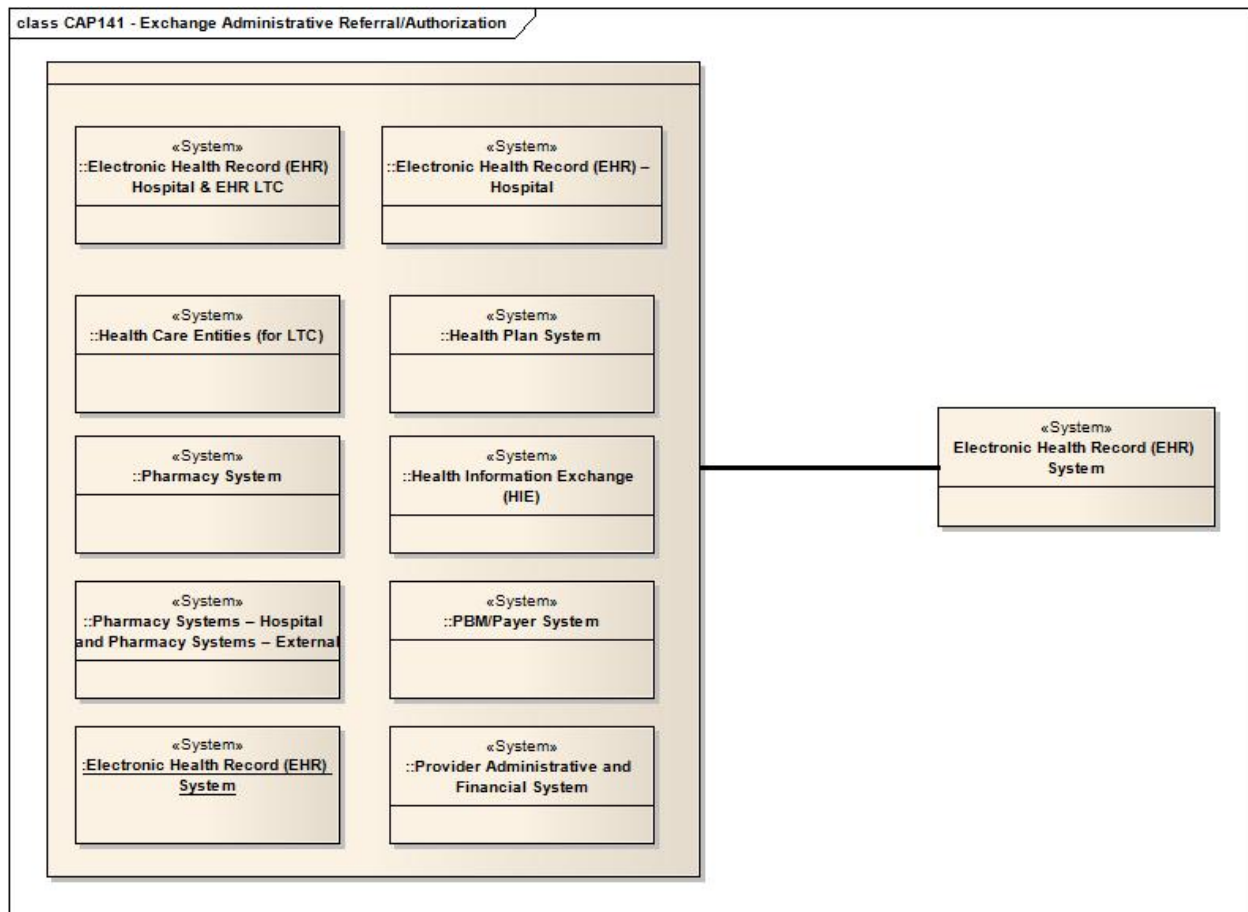
Condition Code	Condition Description
No Applicable Condition Codes	

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

³⁸ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-25 HITSP/CAP141 – Communicate Referral Authorization Visual Overview



3.25.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.26 HITSP/CAP142 - RETRIEVE COMMUNICATIONS RECIPIENT SPECIFICATION

3.26.1 OVERVIEW

This Capability addresses interoperability requirements that support access to a directory to identify one or more communication recipients in order to deliver 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.



3.26.2 DESIGN SPECIFICATION

3.26.2.1 INTERACTING SYSTEMS

Table 3-132 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) System
Emergency Communications System
Health Information Exchange (HIE) – Infrastructure Services
Clinical Decision Support (CDS) System
Genetic Clinical Decision Support System
Genetic/Genomic Knowledge Repository
Laboratory Information System (LIS)
Public Health Information System
Health Plan System
Personal Health Record (PHR) System

3.26.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-133 Constraints and Assumptions

Constraint	Type of Constraint
No Applicable Constraints	

3.26.2.3 LIST OF CONSTRUCTS

Table 3-134 List of Constructs

Construct	Description
HITSP/T64 – Identify Communication Recipients	The HITSP 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

3.26.2.4 SPECIFIED INTERFACES

Table 3-135 HITSP/CAP142 – Retrieve Communications Recipient Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ³⁹
Personnel White Pages Consumer	1	O	Find Personnel White Pages (HITSP/T64)	O
	2	O	Query Personnel White Pages (HITSP/T64)	R
DNS Server	4	R	Find Personnel White Pages (HITSP/T64)	R
Personnel White Pages Directory	5	R	Query Personnel White Pages (HITSP/T64)	R

³⁹ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.

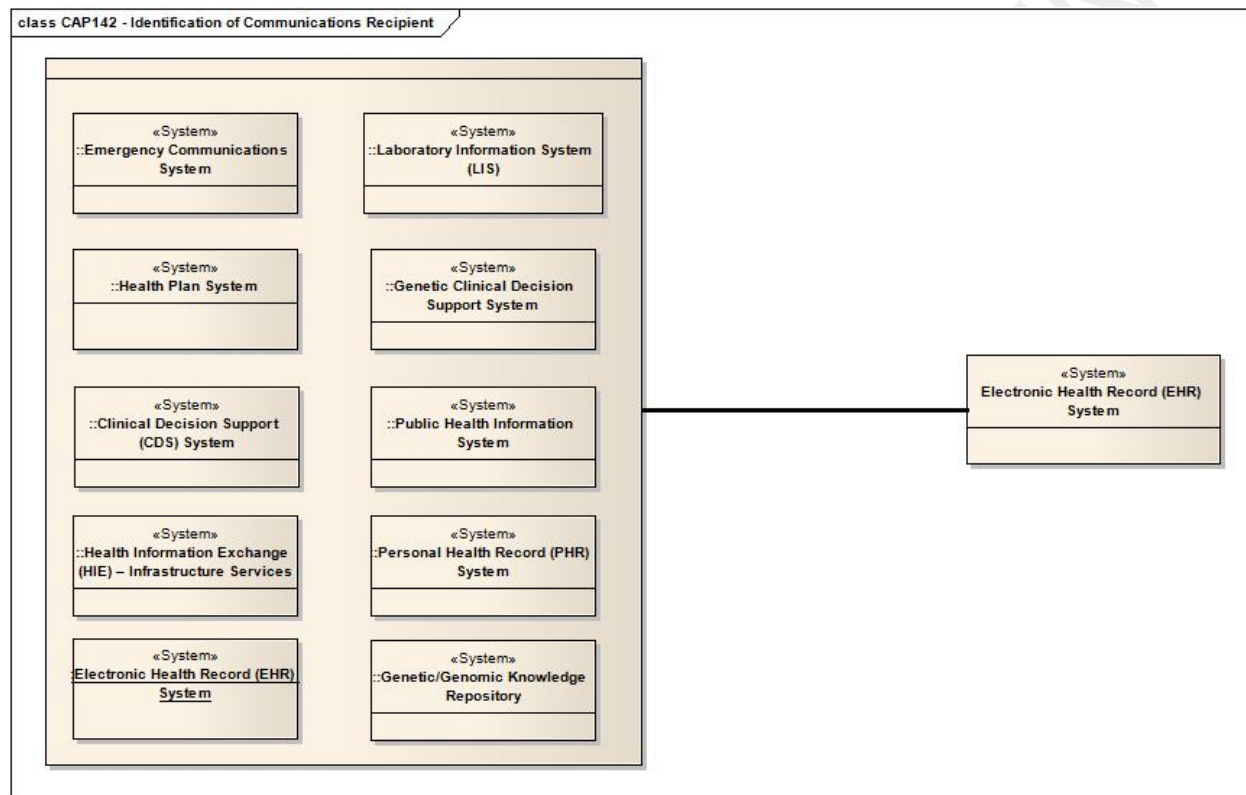


Table 3-136 Interface Conditions and T/TP/SC/Content Optionality

Condition Code	Condition Description
No Applicable Condition Codes	

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

Figure 3-26 HITSP/CAP142 – Retrieve Communications Recipient Visual Overview



3.26.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.

3.27 HITSP/CAP143 – MANAGE CONSUMER PREFERENCE AND CONSENTS SPECIFICATION

3.27.1 OVERVIEW

This Capability addresses management of consumer preferences and consents as an acknowledgement of a privacy policy. This Capability is used to capture a patient or consumer agreement to one or more privacy policies; where examples of a privacy policy may represent a consent, dissent, authorization for data use, authorization for organizational access, or authorization for a specific clinical trial. This Capability also supports the recording of changes to prior privacy policies such as when a patient changes their level of participation or requests that data no-longer be made available because they have left the region.



The enforcement of the currently agreed to privacy policies is embedded in HITSP/SC108 Access Control Service Collaboration as enforced by HITSP/TP20 Access Control Construct. Therefore this Capability addresses only the management of the privacy policy acknowledgements.

The acknowledgement to the privacy policy is structured according to the HL7 CDA standard with recording the act of acknowledgement of one or more privacy policies. As the standards develop the content of the privacy policy is expected to be encoded within the same CDA document such that more powerful policies can be expressed.

1. Privacy policy (e.g., Consent) management has the following characteristics as documented in HITSP/TP30:
2. Patient consent directives are captured electronically in a consent repository
3. Patient consent is withdrawn and that withdrawal is captured in a repository
4. Patient consent is revoked and that revocation is captured in a repository
5. Patient consent directives are transmitted to a Requester
6. Processing of patient consent directives is logged in audit trail

3.27.2 DESIGN SPECIFICATION

3.27.2.1 INTERACTING SYSTEMS

Table 3-137 Interacting Systems

Interacting Systems
Electronic Health Record (EHR) Systems
Personal Health Record (PHR) Systems
Consent Management System

3.27.2.2 CONSTRAINTS AND ASSUMPTIONS

This section provides an overview of the constraints (i.e., Assumptions, Pre-conditions, Post-conditions, Triggers) associated with the Capability.

Table 3-138 Constraints and Assumptions

Constraint	Type of Constraint
HIPAA policy compliance is maintained by all organizations handling patient data	Assumption
Network infrastructures that enable secure, appropriate, and accurate information exchange across data sources and systems to view the data. This includes, but is not limited to: methods to identify and authenticate users <ul style="list-style-type: none"> • Methods to identify and determine providers of care • Methods to enforce data access authorization policies • Methods to correctly match consumers/patients across systems • Methods to identify and determine health insurers • Methods to identify and determine pharmacy benefits managers (NOTE: pharmacy benefit information is obtained through NCPDP transactions) • Methods to identify data sources including but not limited to provider EHR systems 	Pre-condition
Ability to identify and request corrections to errors is available	Pre-condition
Ability to apply notes, corrections and comments on original entries is available	Pre-condition
Method to query other organizations for data and matching to the consumer is available	Pre-condition
Support the technical measures to ensure Security and Privacy of consumer/patient health information	Pre-condition Pre-condition
Legal and governance issues regarding data access authorizations, data ownership, and data use are in effect	Pre-condition Pre-condition
Privacy policies are written and identifiers are given to them	Pre-condition
Appropriate Access Controls are in place specific to the systems and the roles/individuals that are allowed to register acknowledgement of a privacy policy. This is the authorization of the Consent Originator systems	Pre-condition



3.27.2.3 LIST OF CONSTRUCTS

Table 3-139 List of Constructs

Construct	Description
HITSP/TP30 – Manage Consent Directives	The HITSP 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/SC112 – Healthcare Document Management	The HITSP Healthcare Document Management Service Collaboration provides the ability to share healthcare documents using a set of topologies, such as Media, e-Mail, Point-to-Point, Shared within a Health Information Exchange, and Shared within a larger community (made up of potentially diverse Health Information Exchanges)

3.27.2.4 SPECIFIED INTERFACES

Table 3-140 HITSP/CAP143 – Manage Consumer Preference and Consents Specified Interfaces

Interface (Initiating or Responding)	Interface number	Interface Condition	T/TP/SC or Content	T/TP/SC/Content Optionality ⁴⁰
Content Creator (e.g., Consent Originator and Consenter)	1	R	Consent Document (HITSP/TP30)	R
Content Consumer (e.g., Consent Directive Requestor)	2	R	Consent Document (HITSP/TP30)	R
Send Documents	3	CAP143-[101], [102]	Healthcare Document Management (HITSP/SC112)	R
Receive Documents	4	CAP143-[101]	Healthcare Document Management (HITSP/SC112)	R

Table 3-141 Interface Conditions and T/TP/SC/Content Optionality

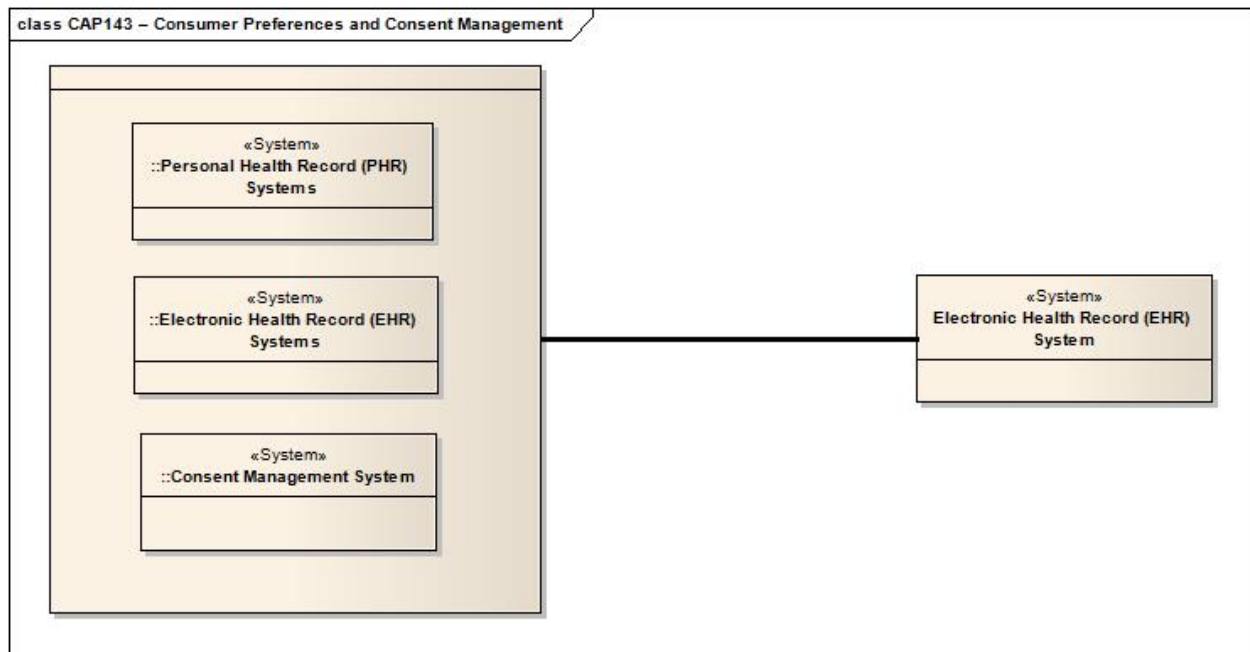
Condition Code	Condition Description
CAP143-[101]	An implementation shall choose amongst one of the interfaces defined in Service Collaboration HITSP/SC112 Healthcare document Management. This choice is dependent on the topology chosen (See Table 3-1 Information Exchange Topologies Mapped to Capabilities above), the physical limitations, policies and processes of the implementation
CAP143-[102]	The EHR System may optionally choose to implement a Document Repository or use an external repository for the Send Documents through Share option of HITSP/SC112 Healthcare Document Management

The following diagram shows a visual overview of the Capability using UML notation. The visual overview outlines how the interacting systems work together as part of implementing the Capability. The thick arrow in the middle of the diagram outlines how sets of systems can interact together, and represent the information exchange requirement (IER) inherent to the Capability. An IER is not explicitly noted as part of this diagram.

⁴⁰ Optionality = “R” for Required, “R2” for Required if known, “O” for Optional, or “C” for Conditional. If applicable, conditional footnotes are further described below.



Figure 3-27 HITSP/CAP143 – Manage Consumer Preference and Consents Visual Overview



3.27.2.5 CAPABILITY OPTIONS

Note that subsets of the data content can be sent as appropriate for the application; but the system must be able to address the entire data content. Note that transport options can be addressed.



4.0 APPENDIX

The following sections include relevant materials referenced throughout this document.

4.1 HITSP CAPABILITIES MAPPED TO THE HITSP PROVIDER, POPULATION AND CONSUMER INTEROPERABILITY SPECIFICATIONS

The following figure shows the Capabilities used within the EHR-Centric IS mapped to the thirteen HITSP Interoperability Specifications that were approved or recognized as of February 13, the ARRA enactment date. This provides the traceability necessary to fulfill conditions found in Section 3004 of Title XIII (HITECH) of the ARRA.



HITSP Capabilities
