

# e-MS Clinical Document Architecture Implementation Guide

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**Abstract:**

The Electronic Medical Summary (e-MS) Clinical Document Architecture (CDA) Implementation Guide (e-MSIG) provides background information on HL7 CDA Release 2 as well as CDA implementation specifics as they relate to the e-MS. An e-MS is a subset of patient data suitable for communication among primary health care practitioners and other health care providers for the purpose of sharing the care of a patient. The Implementation Guide outlines details on each section of the e-MS CDA including data elements with their associated vocabularies (where applicable), schemas, and both human and machine readable XML examples.

**Status:**

This document is a Specification of the British Columbia e-MS Project sponsored by the Ministry of Health Services and British Columbia Medical Association. It is anticipated that, after further testing and review by EMR vendors during an e-MS system trial, this specification will be submitted for adoption as a provincial health care standard by the Health Information Standards Council of BC.

This document is updated periodically on no particular schedule. Send comments to the editors.

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# 1 Revision History

Rev	Date	By Whom	What
WD-02	2004-08-16 to 2004-09-14	Frieda Kaiser / James Angus	<ul style="list-style-type: none"><li>• Removed Abnormal Result Flag Vocabulary</li><li>• changed Referral Type vocabulary to HL7 as source</li><li>• added information on GUIDs in II definition in datatypes section</li><li>• added missing data type definitions</li><li>• removed repetition of 'cardinality' section</li><li>• updated definition of 'cardinality'</li><li>• added human readable sections where they were missing</li><li>• added reference to related referral document in human readable</li><li>• changed cardinality and description of 'Author' section</li><li>• changed "intendedRecipient.ClassCode" to "ASSIGNED"</li><li>• changed PHN to BC-PHN</li><li>• changed descriptions of all text data elements</li><li>• reorganized data elements in all document sections to reflect schema</li><li>• added definitions for typeCodes, moodCodes, etc. in appropriate sections</li><li>• changed human readable examples (with updates to XML examples)</li><li>• updated conformance section</li><li>• revised vocabularies section</li><li>• added e-MS CDA model as appendix.</li><li>• Added EMS_datatypes.xsd</li></ul>
WD-03	2004-09-15 to present	Frieda Kaiser	<ul style="list-style-type: none"><li>• Modification of human readable document</li></ul>

## 2 Introduction

### 2.1 Purpose

The purpose of the e-MS CDA Implementation Guide (e-MSIG) is to provide a section by section approach to implementing the e-MS implementation of the HL7 Clinical Document Architecture (CDA), which will be used for exchanging clinical documents between electronic medical record (EMR) systems.

### 2.2 Audience

The target audience for this specification is the community of electronic medical records (EMR) systems software developers who will use the e-MS CDA Implementation Guide in order to integrate the capability to send and receive e-MS clinical documents. This capability is needed for integration and interoperability between disparate EMR systems and primary care physicians.

### 2.3 Scope

The scope of the e-MS CDA Implementation Guide is the standardization of clinical documents for exchange of data when sharing the care of individual patients.

The clinical content of CDA documents is defined in the Reference Information Model (RIM). The e-MS clinical content was defined by a working group of care providers and based on the COMPETE II (<http://www.compete-study.com>) core data set.

The CDA standard does not specify the creation, management, or exchange of documents, only their exchange markup. While it may be possible to directly use the CDA Schema in a document authoring environment, such use is outside the CDA specification. Document management is critically interdependent with the CDA specifications, but the specification of document management is outside the scope of the CDA and independent of messaging and transport (please refer to the e-MS Exchange Protocol (e-MSEP) for more information on messaging).

### 2.4 Approach

The following approach was taken to create the e-MS CDA Implementation Guide.

1. Start with the HL7 CDA Domain Refined Message Information Model (CDA:RMIM).
2. Using the HL7 RMIM-Designer tool, constrain the CDA:RMIM to remove functionality not required by e-MS
3. Use the HL7 Schema-Generator to generate the e-MS:RMIM schema
4. Manually modify the e-MS:RMIM schema as required to complete constraints required to validate e-MS business rules.
  - a. Note manual modifications and contribute to HL7 towards improving the RMIM-Designer tool's capabilities.
5. Build an example instance that is compliant to the e-MS:RMIM
6. Build a Schematron schema to validate the e-MS business rules not contained within the e-MS:RMIM schema.

## 2.5 Caveats and Assumptions

Although it is not assumed that the reader has an understanding of HL7 RIM and HL7 CDA Release 2, Committee Ballot #3 standards; the authors recommend that the reader use publicly available documents (available at [www.hl7.org](http://www.hl7.org)) to augment this implementation guide. All examples are to be considered non-normative. If inconsistencies exist between the schema and the examples, the schema supersedes the examples.

## 2.6 Terminology

### ***Electronic Medical Summary (e-MS):***

An electronic medical summary (e-MS) is a subset of patient data suitable for communication among primary health care practitioners and other health care providers for the purpose of sharing the care of a patient.

### ***Electronic Medical Record (EMR):***

Term used to describe a physician office software system that is capable of storing electronic patient charts, replacing the need for paper-based patient records.

### ***Hierarchical Message Description (HMD):***

A metaobject that defines message types. It also defines the linkages of the message types to interactions and the linkages of certain message element types to attributes of the Reference Information Model.

### ***Refined Message Information Model (R-MIM):***

The Refined Information Model (R-MIM) is the information structure that represents the requirements for a set of messages. It contains those classes, attributes, associations and data types that are needed to support one or more Hierarchical Message Descriptions.

## 2.7 Business Rules

Business rules pertaining to each of the individual document sections can be found directly in the respective section.

Please refer to the e-MS Business Requirements Document Phase 2 for details on business rules. A copy of this document can be found at <http://www.e-ms.ca/documentation.php>.

## 2.8 Conformance

To conform to this specification, a system must implement all parts of this specification that are relevant to the interfaces for which conformance is claimed. A system conforming to this specification for the purposes of representing an e-MS Messaging Service, must implement this complete specification and must implement a model consistent with the authorization model specified in this specification. The service system must implement an authentication and security model that is consistent with the intent of this specification.

### 2.8.1 Conformance Validation Introduction

This specification is based upon the HL7 CDA Release 2 Committee Ballot #3 (August 2004) standards. The process to develop these specifications has included the identification of the e-MS data requirements (e-MS Core Data Set) and the mapping of these requirements against the HL7

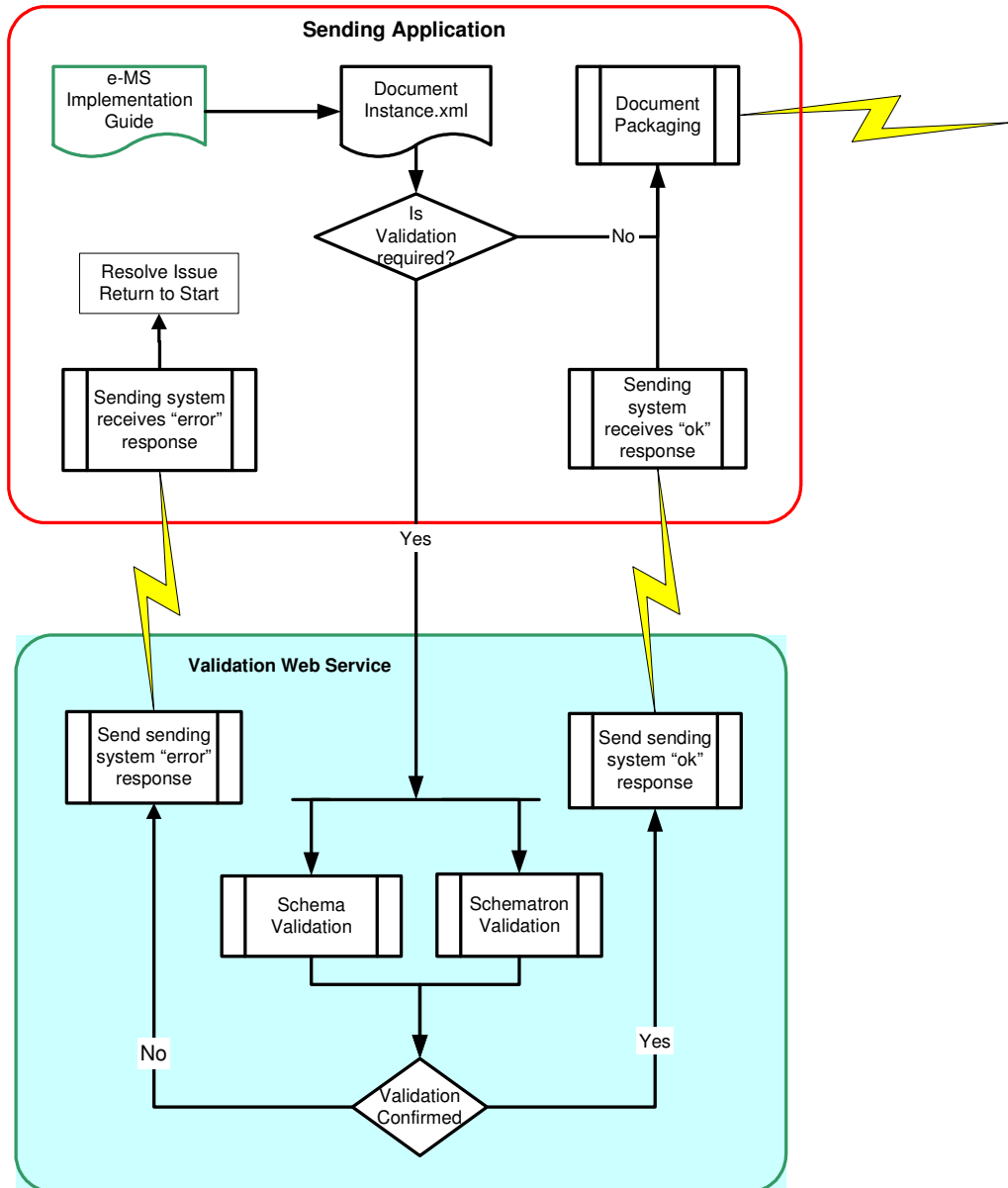
CDA specification. A constrained version of the CDA specification was developed and is documented in this implementation guide. Conformance to these specifications requires two parallel validation processes. The first validation is a validation of the document instance against the schema documented in this implementation guide. This validation will ensure that the document instance is a compliant CDA document conforming to the CDA constraints defined by the e-MS requirements. A second validation is required to ensure that the document instance reflects the additional business rules and constraints that are documented in the implementation guide, but not reflected within the HL7 CDA Compliant Schema. The process to perform this second validation occurs through a Schematron schema (please see <http://xml.ascc.net/resource/schematron/schematron.html> for more information). Validation occurs through a web service, which can be exposed to the vendors through a secure login. Both validations must be passed for the document to continue to the broker.

Conformance validation must only necessarily be performed during development and testing of the document generation software. Once the document generation process is validated and stable the originating application may package and transmit the document instance without performing any further validation. The e-MS broker will always perform the parallel validation process on all e-MS documents that it processes and will reject any documents that do not conform to the e-MS document specifications.

## 2.8.2 Originating Application Process

The following flow diagram shows the process that an originating application may follow to ensure that the document instance is validated appropriately prior to communication.

1. A document instance is generated based on the e-MS implementation guide
2. If no validation is required this document may be immediately packaged and transmitted to the e-MS broker.
3. If validation is required (for example during testing of new document generation software) then the instance is validated against the e-MS CDA compliant schema (as documented in the Implementation Guide) and the Schematron schema.
4. The web service will accept a document instance and return a pass/fail and if appropriate an error log.
5. Once the validation is confirmed the sending application may package and transmit the document to the e-MS broker confident that it will pass the e-MS broker validation.



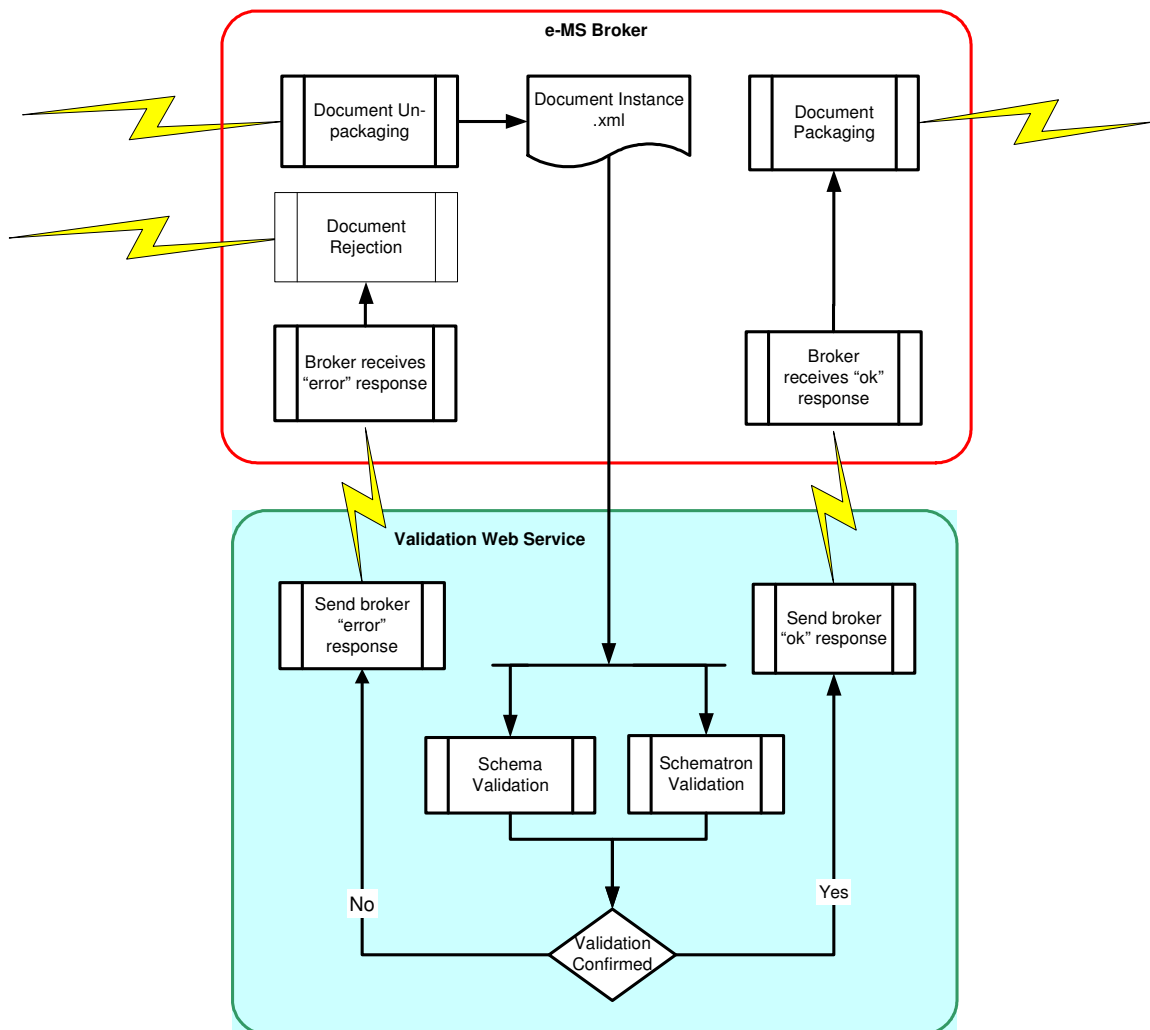
### 2.8.3 e-MS Broker Process

The e-MS Broker performs several functions that are not detailed in this section; please refer to the e-MS Broker technical architecture document (TAD) for details on the full e-MS Broker processing.

The following process will be followed by the e-MS Broker when a document is received to validate the compliance to the e-MS CDA compliant schema.

1. The document is unpackaged from the transportation wrapper. Part of this step is the confirmation that the document is a CDA document and the document type is confirmed.
2. To validate, the instance is validated against the e-MS CDA compliant schema (as documented in the Implementation Guide) and the Schematron schema.

3. If the document passes the validation it is then repackaged and transmitted on to the recipient application. If the document does not validate correctly an appropriate rejection message is returned to the originating application.





## 3 CDA Rules

### 3.1 CDA Document Sections

A CDA document is comprised of two parts, a header and a body. The CDA document header is consistent across all CDA documents regardless of document type and identifies and classifies the document and provides information on authentication, the encounter, the patient, and the involved providers. The body contains the clinical report, and can be a combination of structured text and/or structured markup.

### 3.2 CDA Document Levels

Each section of a CDA document can be either in the form of just free text or can also be defined to have discrete data elements in addition to the free text representation. The e-MS makes use of CDA Document Levels 2 and 3. A section defined as 'level 2' is one which only supports a free text representation of the section contents. A section defined as 'level 3' is one which supports codification (has discrete data elements and/or structured vocabularies). 'Level 1' has a structured header and structured body of message with limited coding capacity for content. The e-MS does not make use of 'Level 1'.

### 3.3 Cardinality

Cardinality rules exist for each section and each individual data element within a section if the section is defined at 'level 3'. Cardinality is represented by a 0, 1, 2 or \* indicating the minimum cardinality, followed by two periods and a 0, 1, 2 or \* indicating the maximum cardinality. For example, 0..\* indicates a minimum cardinality of 0 and maximum cardinality of many.

The following table outlines the different types of cardinalities that may be defined for sections and data elements:

Cardinality	Description
0..1	The section or data element may have zero or one instance.
1..1	The section or data element may have one and only one instance.
0..*	The section or data element may have zero or more instances.
1..*	The section or data element may have one or more instances.
2..2	The section or data element must have two instances.

### 3.4 Mandatory / Optional / Required

Each section and each data element within a section is defined as mandatory, optional or required.

If a section or data element is mandatory (denoted by 'M'), it must be present in the document, otherwise the document is invalid and is non-conformant. The minimum cardinality for all mandatory items is 1.

If a section or data element is required (denoted by 'R'), the sending application must support this field. In other words, if the data is available, then the field must be included in the document. If the

minimum cardinality is 0 and the data is not available, the field may be omitted from the document and still be conformant. If the minimum cardinality is 1 and the data is not available, a NullFlavor is required to be sent (e.g. no information, unknown, masked, not asked and asked, but unknown).

If a section or data element is optional (denoted by 'O'), the section or data element may or may not be sent and supported. The receiving application may not assume the presence of this item in a document.

If a section or data element is not supported or encoded (denoted by 'X') the section or data element may not be included in the document. Inclusion of the item in the document would be non-conformant.

The following table provides descriptions of the combinations of levels that could exist for an individual section:

Level	Description
O2 X3	the section is optional at level 2, and not supported/encoded down to level 3.
O2 O3	the section is optional at both levels 2 and 3.
O2 R3	the section is optional at level 2, but encoding at level 3 is required.
O2 M3	the section is optional at level 2, but encoding at level 3 is mandatory.
R2 X3	the section is required at level 2, and not supported/encoded down to level 3.
R2 O3	the section is required at level 2, and encoding at level 3 is optional.
R2 R3	the section is required at level 2, and encoding at level 3 is also required.
R2 M3	the section is required at level 2, and encoding at level 3 is mandatory.
M2 X3	the section is mandatory at level 2, and not supported/encoded down to level 3.
M2 O3	the section is mandatory at level 2, but encoding at level 3 is optional.
M2 R3	the section is mandatory at level 2, and encoding at level 3 is required.
X2 X3	the section is not supported/encoded down to level 2 or level 3.
X2 M3	the section is not supported at level 2, but mandatory at level 3.
X2 R3	the section is not supported at level 2, but required at level 3.

### 3.5 Data Types

Each data element has a data type associate with it. The following table provides a description of the HL7 datatypes used in the e-MS CDA.

Data Type	Name	Description
AD	Postal Address	Mailing and home or office addresses. A sequence of address parts, such as street or post office Box, city, postal code, country. This datatype is of mixed content.
ANY	Any	Defines the basic properties of every data value. This is an abstract type, meaning that no value can be just a data value without belonging to any concrete type. Every concrete type is a specialization of this general abstract DataValue type.
CD	Concept Descriptor	A concept descriptor represents any kind of concept usually by giving a code defined in a code system. A concept descriptor can contain the original text or phrase that served as the basis of the coding and one or more translations into different coding systems. A

Data Type	Name	Description
		concept descriptor can also contain qualifiers to describe, e.g., the concept of a "left foot" as a postcoordinated term built from the primary code "FOOT" and the qualifier "LEFT". In exceptional cases, the concept descriptor need not contain a code but only the original text describing that concept.
CE	Coded with Equivalents	Coded data that consists of a coded value (CV) and, optionally, coded value(s) from other coding systems that identify the same concept. Used when alternative codes may exist.
CS	Coded Simple Value	Coded data in its simplest form, where only the code is not predetermined. The code system and code system version is fixed by the context in which the CS value occurs. CS is used for coded attributes that have a single HL7-defined value set.
ED	Encapsulated Date	Data that is primarily intended for human interpretation or for further machine processing outside the scope of HL7. This includes unformatted or formatted written language, multimedia data, or structured information in as defined by a different standard.
EN	Entity Name	A name for a person, organization, place or thing. A sequence of name parts, such as first name or family name, prefix, suffix, etc.
II	Instance Identifier	An identifier that uniquely identifies a thing or object. Examples are object identifier for HL7 RIM objects, medical record number, order id, service catalog item id, Vehicle Identification Number (VIN), etc. Instance identifiers are defined based on ISO object identifiers. A globally unique identifier (GUID) will be used as the root for instance identifiers in this application.
IVL	Interval	A set of consecutive values of an ordered base data type. Any ordered type can be the basis of an interval; it does not matter whether the base type is discrete or continuous. If the base data type is only partially ordered, all elements of the interval must be elements of a totally ordered subset of the partially ordered data type.
ON	Organization Name	A name for an organization. A sequence of name parts.
PN	Person Name	A name for a person. A sequence of name parts, such as first name or family name, prefix, suffix, etc. A name part is a restriction of entity name part that only allows those entity name parts qualifiers applicable to person names. Since the structure of entity name is mostly determined by the requirements of person name, the restriction is very minor. This data type is of mixed content.
PQ	Physical Quantity	A dimensioned quantity expressing the result of measuring.
RTO	Ratio	A quantity constructed as the quotient of a numerator quantity divided by a denominator quantity. Common factors in the numerator and denominator are not automatically cancelled out. The data type supports titers (e.g., "1:128") and other quantities produced by laboratories that truly represent ratios.
SC	Character String with Code	A character string that optionally may have a code attached. The text must always be present if a code is present. The code is often a local code.
ST	Character String	The character string data type stands for text data, primarily intended for machine processing (e.g., sorting, querying, indexing, etc.) Used for names, symbols, and formal expressions.
TEL	Telecommunication Address	A telephone number (voice or fax), e-mail address, or other locator for a resource mediated by telecommunication equipment. The address is specified as a Universal Resource Locator (URL) qualified by time specification and use codes that help in deciding which address to use for a given time and purpose.
TS	Timestamp	A quantity specifying a point on the axis of natural time. A point in time is most often represented as a calendar expression. Note: An IVL TS (Interval Timestamp) has to be fully formed, whereas a regular TS can be truncated.

## 4 CDA Header Sections

### 4.1 Clinical Document

Section Level: X2 M3  
Cardinality: 1..1

#### 4.1.1 Description

The clinical document section includes audit data that provides detailed information on document creation. Three different types of documents can be sent: referral, consult or medical summary. As can be seen in the human readable example in Appendix A, each clinical document must display the document type, patient's full name, date of birth, and the date the document was sent (Author.time) as a header on each page. The footer of each page must contain the author's full name, the source system and the page number (page X of Y).

The clinical document section is not supported at level 2 but mandatory at level 3 (X2 M3). The cardinality for this section is 1..1.

#### 4.1.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.1.2.1 ClinicalDocument.ID	extension root	Document_ID	Unique ID of the document.	EMS.II .RootE xtensi on		M: 1..1	The ID is unique and generated by the sending application and can be used to match related clinical documents. In the case of multiple related documents and users merging these within the EMR system, it is the responsibility of the sending and receiving systems to handle the correlations.
4.1.2.2 ClinicalDocument.Code	code codeSystem codeSystemName displayName	Document_Type	The type of e-MS documents (e.g. referral, consult, medical summary).	EMS. CE.Ful l	LOINC: Document Type	M: 1..1	
4.1.2.3 ClinicalDocument.Title		Document_Title	Title of the document	ST		M: 1..1	
4.1.2.4 ClinicalDocument.EffectiveTime	value	Send_Date	Date and time that the e-MS document was sent.	EMS.T S		M: 1..1	The send date and time should be the same as the date in the message transport.

### 4.1.3 Example

Human Readable
Since the header section of the CDA doesn't have a human readable component it is required that the vendor display the content of the "ClinicalDocument.Title" element (left justified, bold and large font) as shown here):
Referral Letter
XML Instance
<pre>&lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;ClinicalDocument xmlns="urn:hl7-org:v3"&gt;   &lt;id extension="12345" root="2.16.840.1.113883.3.933"/&gt;   &lt;code code="34140-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Referral"/&gt;   &lt;title&gt;Referral Letter&lt;/title&gt;   &lt;effectiveTime value="20040809142222"/&gt; &lt;/ClinicalDocument&gt;</pre>
Schema Links
<a href="#">ClinicalDocument</a>

## 4.2 Related Document

Section Level: X2 O3

Cardinality: 0..\*

### 4.2.1 Description

The related document section allows an e-MS document to be related to one or more other e-MS documents. This would be used for example when a Consult letter needs to be related to a Referral. The related document section is not supported at level 2 but is optional at level 3 (X2 O3). The cardinality for this section is 0..\*.

### 4.2.2 Data Elements

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.2.2.1	ClinicalDocument.RelatedDocument.ParentDocument.ID	extension root	Related_Document_ID	The ID of another e-MS document that this document is related to.	EMS.II.RootExtension		M: 1..1	
4.2.2.2	ClinicalDocument.RelatedDocument.ParentDocument.Code	code codeSystem codeSystemName displayName	Related_Document_Type	The type of another e-MS document that this document is related to.	EMS.CE.Full	LOINC: Document Type	M: 1..1	
4.2.2.3	ClinicalDocument.RelatedDocument.ParentDocument.Text		Related_Document_Text	The description of the document that is related	ED		M: 1..1	
4.2.2.4	ClinicalDocument.RelatedDocument	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ActRelationshipDocument		

### 4.2.3 Example

N/A	Human Readable
XML Instance	
<pre>&lt;relatedDocument typeCode="APND"&gt;   &lt;parentDocument&gt;     &lt;id extension="12346" root="2.16.840.1.113883.3.933"/&gt;   </pre>	

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<pre>&lt;code code="34140-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Referral"/&gt; &lt;text&gt;A previous referral is related to this document&lt;/text&gt; &lt;/parentDocument&gt; &lt;/relatedDocument&gt;</pre>
Schema Links
<a href="#">RelatedDocument2</a> <a href="#">ParentDocument</a>

## 4.3 Custodian

Section Level: X2 M3  
Cardinality: 1..1

### 4.3.1 Description

The custodian section represents the organization from which the document originates and that is in charge of maintaining the document. In the e-MS this is the organization that sends the document. The custodian document section is not supported at level 2 but mandatory at level 3 (X2 M3). The cardinality for this section is 1..1.

### 4.3.2 Data Elements

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.3.2.1	ClinicalDocument.Custodian.AssignedCustodian.RepresentedCustodianOrganization.ID	extension root	Custodian_ID	ID of the custodian of the document. The custodian represents the organization from which the document originates and that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document.	EMS.II.RootExtension		M: 1..1	The e-MS system will provide this identifier when the organization is first created.
4.3.2.2	ClinicalDocument.Custodian.AssignedCustodian.RepresentedCustodianOrganization.Name		Custodian_Name	Name of the custodian of the document. The custodian represents the organization from which the document originates and that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document.	ON		0: 0..1	
4.3.2.3	Custodian	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		voc.xsd: ParticipationType		

### 4.3.3 Example

Human Readable
N/A
XML Instance
<pre>&lt;custodian typeCode="CST"&gt;   &lt;assignedCustodian&gt;     &lt;representedCustodianOrganization&gt;</pre>



<pre>&lt;id extension="123" root="7EEF0BCC-F03E-4742-A736-8BAC57180C5F"/&gt; &lt;name&gt;Level 7 Healthcare, Inc&lt;/name&gt; &lt;/representedCustodianOrganization&gt; &lt;/assignedCustodian&gt; &lt;/custodian&gt;</pre>	Schema Links
Custodian AssignedCustodian CustodianOrganization	

## 4.4 Author

Section Level: X2 M3

Cardinality: 1..1

### 4.4.1 Description

Author information provides demographic information on the creator (and sender) of the e-MS, i.e. the primary care provider who is responsible for the e-MS. An e-MS may not be edited and forwarded under the previous author's name. The author will always be the person who last sent the e-MS. If a delegate sends an e-MS on behalf of a primary care provider the clinically responsible person's information will appear in the author information section. Author information also describes the source system that sent the e-MS. The Author document section will occur twice: once for author information and once for source system information. The author information document section is not supported at level 2 but mandatory at level 3 (X2 M3). The cardinality for this section is 2..2.

### 4.4.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Date type	Vocabulary	R/M/O: Cardinality	Comments
4.4.2.1 Author.Time	value	Create_Date	Date and time stamp when e-MS was created.	EMS.TS		M: 1..1	This may not be a partial date.
4.4.2.2 Author.Assigned Author.ID	extension root	AuthorID	User ID of individual that is clinically responsible for the e-MS.	EMS.II.RootExtension		M: 1..1	An own internal ID will be created at this point with the possibility to use the PRS in the future.
4.4.2.3. Provider Address							
4.4.2.3.a Author.Assigned Author.AddressLine		Provider_Address	An address is where documents are coming from. This information will be available in the provider lookup.	AD		O: 0..1	assignedEntity.addr is a mixed content element so if the individual components of an address are not available then the entire address could be put in this element.
4.4.2.3.b Author.Assigned Author.Address.City		Provider_City	The city where the care provider is located	AD		O: 0..1	
4.4.2.3.c Author.Assigned Author.Address.State		Provider_Province_State	The province where the care provider is located	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.4.2.3.d Author.Assigned Author.Address.Post		Provider_Postal_Zip	Location identifier used by Canada Post	AD		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Date type	Vocabulary	R/M/O: Cardinality	Comments
4.4.2.3.e	alCode Author.Assigned Author.Addr.Country		Provider_Country	Nation or state within which the care provider is found.	AD	ISO: Country	O: 0..1	
4.4.2.4	Author.Assigned Author.Telecom	value use	Provider_Telecom_Use Provider_Telecom_Value	A classification of the telecommunication type, e.g. Business phone, business fax, home phone, home fax, cell, e-mail together with the phone number or e-mail address of the care provider	EMS.T EL	HL7: TelecommunicationAddressUse HL7: URLLScheme	O: 0..*	
4.4.2.5. Provider Name								
4.4.2.5.a	Author.Assigned Author.assigned AuthorChoice.asignedPerson.Name.Prefix		Provider_Prefix	Title used by the person (i.e. Mr., Mrs., Ms., Dr.).	PN		O: 0..1	assigneePerson.name is a mixed content element so if the individual components of a person's name are not available then the entire name could be put in this element.
4.4.2.5.b	Author.Assigned Author.assigned AuthorChoice.asignedPerson.Name.Given		Provider_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.4.2.5.c	Author.Assigned Author.assigned AuthorChoice.asignedPerson.Name.Family		Provider_Family_Name	Last name or family name of person.	PN		M: 1..1	
4.4.2.5.d	Author.Assigned Author.assigned AuthorChoice.asignedPerson.Name.Suffix		Provider_Suffix	An addition to a surname to distinguish a person (i.e. III, Sr., Jr.).	PN		O: 0..1	
4.4.2.6	Author.Assigned AuthorChoice.asignedAuthoringDevice.software Name		Source_System_Name	Identifies the originating system that generated the e-MS.	SC	e-MS: Source System	M: 1..1	

### 4.4.3 Example

Human Readable	XML Instance
<p>Since the header section of the CDA doesn't have a human readable component it is required that the vendor display the content of the following fields (left justified), in the specified order, under the word 'Author': (left justified and bolded):</p> <p><b>Author:</b></p> <pre>&lt;prefix&gt;&lt;given&gt;&lt;family&gt;&lt;suffix&gt; &lt;streetAddressLine&gt; &lt;city&gt;, &lt;state&gt; &lt;postalCode&gt; &lt;country&gt; &lt;telecom value&gt; &lt;telecom value&gt;</pre> <p>The concrete human readable example would look as such:</p> <p><b>Author:</b> Dr. Harold H. Hippocrates the 1st 4444 Healthcare Drive Ann Arbor, BC A1B 2C3 Canada Phone: (555) 555-1003 Fax: (555) 555-1133</p>	<pre>&lt;author&gt; &lt;time value="20040812120000"/&gt; &lt;assignedAuthor&gt; &lt;id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/&gt; &lt;addr&gt; &lt;streetAddressLine&gt;4444 Healthcare Drive&lt;/streetAddressLine&gt; &lt;city&gt;Ann Arbor&lt;/city&gt; &lt;state&gt;BC&lt;/state&gt; &lt;postalCode&gt;A1B 2C3&lt;/postalCode&gt; &lt;country&gt;CA&lt;/country&gt; &lt;/addr&gt; &lt;telecom value="tel:(555)555-1003" use="WP"/&gt; &lt;telecom value="fax:(555)555-1133" use="WP"/&gt; &lt;assignedAuthorChoice&gt; &lt;assignedPerson&gt; &lt;name&gt; &lt;prefix&gt;Dr.&lt;/prefix&gt; &lt;given&gt;Harold&lt;/given&gt; &lt;given&gt;H.&lt;/given&gt; &lt;family&gt;Hippocrates&lt;/family&gt;</pre>

<pre>&lt;suffix&gt;the 1st&lt;/suffix&gt; &lt;/name&gt; &lt;/assignedPerson&gt; &lt;/assignedAuthorChoice&gt; &lt;/assignedAuthor&gt; &lt;/author&gt; &lt;/author&gt; &lt;time value="20040812120000"/&gt; &lt;assignedAuthor&gt;   &lt;id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/&gt;   &lt;assignedAuthorChoice&gt;     &lt;assignedAuthoringDevice&gt;       &lt;softwareName&gt;e-MS Web&lt;/softwareName&gt;     &lt;/assignedAuthoringDevice&gt;     &lt;/assignedAuthorChoice&gt;   &lt;/assignedAuthor&gt; &lt;/author&gt;</pre>
Schema Links
Author AssignedAuthor AuthorChoice Person AuthoringDevice

## 4.5 Information Recipient

### 4.5.1 Description

Section Level: X2 M3  
Cardinality: 1..1

Information recipient information provides demographic information on the receiver of the e-MS, i.e. the primary care provider who is responsible for the e-MS. If a delegate receives an e-MS on behalf of a primary care provider the primary care provider's information will appear in the information recipient information section; the delegate information is not tracked within the CDA. The information recipient information document section is not supported at level 2 but mandatory at level 3 (X2 M3). The cardinality for this section is 1..1.

### 4.5.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.5.2.1 InformationRecipient.IntendedRecipient.ID	extension root	Recipient_ID	User ID of individual that is clinically responsible for the e-MS.	EMS II .RootElement		M: 1..1	An e-MS ID will be created for Phase 2. In the future it is expected that the PRS ID will be used.
4.5.2.2. Recipient Address							
4.5.2.2.a InformationRecipient.IntendedRecipient.Address.Line		Recipient_Address	An address is where documents are coming from. This information will be available in the provider lookup.	AD		O: 0..1	assignedEntity.address is a mixed content element so if the individual components of an address are not available then the entire address could be put in this element.
4.5.2.2.b InformationRecipient.IntendedRecipient.Address.City		Recipient_City	The city where the care provider is located	AD		O: 0..1	
4.5.2.2.c InformationRecipient.IntendedRecipient.Address.State		Recipient_Province_State	The province where the care provider is located	AD	Canada Post: Province	O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary Codes/Stat e Codes	R/M/O: Cardinality	Comments
4.5.2.2.d	InformationRecipient.IntendedRecipient.Addr.PostalCode		Recipient_Postal_Zip	Location identifier used by Canada Post	AD		O: 0..1	
4.5.2.2.e	InformationRecipient.IntendedRecipient.Addr.Country		Recipient_Country	Nation or state within which the care provider is found.	AD	ISO: Country	O: 0..1	
4.5.2.3	InformationRecipient.IntendedRecipient.Telecom	value use	Recipient_Telecom_Us Recipient_Telecom_Value	A classification of the telecommunication type, e.g. Business phone, home fax, cell, e-mail together with the phone number or e-mail address of the care provider	EMS.T EL	HL7: TelecommunicationAdd ressUse HL7: URLScheme	O: 0..*	
<b>4.5.2.4. Recipient Name</b>								
4.5.2.4.a	InformationRecipient.IntendedRecipient.InformationRecipient.Person.Name.Prefix		Recipient_Prefix	Title used by the person (i.e. Mr., Mrs., Ms., Dr.).	PN		O: 0..1	assigneePerson.name is a mixed content element so if the individual components of a person's name are not available then the entire name could be put in this element.
4.5.2.4.b	InformationRecipient.IntendedRecipient.InformationRecipient.Person.Name.Given		Recipient_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.5.2.4.c	InformationRecipient.IntendedRecipient.InformationRecipient.Person.Name.Family		Recipient_Family_Name	Last name or family name of person.	PN		M: 1..1	
4.5.2.4.d	InformationRecipient.IntendedRecipient.InformationRecipient.Person.Name		Recipient_Suffix	An addition to a surname to distinguish a person (i.e. III, Sr., Jr.).	PN		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	.Suffix							
4.5.2.5	InformationRecipient.IntendedRecipient.ReceivedOrganization.Name		Recipient_Organization	The organization where the receiving care provider is currently working when sending the e-MS.	ON		O: 0..1	
4.5.2.6	InformationRecipient.typeCode			A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		voc.xsd: x_InformationRecipient		
4.5.2.7	InformationRecipient.IntendedRecipient.classCode			A code specifying the major type of Act that this Act-instance represents.		voc.xsd: x_informationRecipientRole		

### 4.5.3 Example

Human Readable
<p>Since the header section of the CDA doesn't have a human readable component it is required that the vendor display the content of the following fields (to the right of the Author information), in the specified order, under the words 'Information Recipient:.' (bolded):</p> <p><b>Information Recipient:</b></p> <pre>&lt;prefix&gt;&lt;given&gt;&lt;family&gt;&lt;suffix&gt; &lt;streetAddressLine&gt; &lt;city&gt;, &lt;state&gt; &lt;postalCode&gt; &lt;country&gt; &lt;telecom value&gt; &lt;telecom value&gt;</pre> <p>The concrete human readable example would look as such:</p> <p><b>Information Recipient:</b>  Dr. Patrick P. Pump Sr.  4444 Healthcare Drive  Ann Arbor, BC  A1B 2C3  Canada  Phone: (555) 555-1009  Fax: (555) 555-1199</p>
XML Instance



<pre>&lt;informationRecipient typeCode="PRCP"&gt;   &lt;intendedRecipient classCode="ASSIGNED"&gt;     &lt;id extension="ppump" root="DCCD2C68-389B-44c4-AD99-B8FB2DAD1493"/&gt;   &lt;/id&gt;   &lt;addr&gt;     &lt;streetAddressLine&gt;4444 Healthcare Drive&lt;/streetAddressLine&gt;     &lt;city&gt;Ann Arbor&lt;/city&gt;     &lt;state&gt;BC&lt;/state&gt;     &lt;postalCode&gt;A1B 2C3&lt;/postalCode&gt;     &lt;country&gt;CA&lt;/country&gt;   &lt;/addr&gt;   &lt;telecom value="tel: (555) 555-1009" use="WP"/&gt;   &lt;telecom value="fax: (555) 555-1199" use="WP"/&gt; &lt;/informationRecipient&gt; &lt;informationRecipientPerson&gt;   &lt;name&gt;     &lt;prefix&gt;Dr.&lt;/prefix&gt;     &lt;given&gt;Patrick&lt;/given&gt;     &lt;given&gt;P.&lt;/given&gt;     &lt;family&gt;Pump&lt;/family&gt;     &lt;suffix&gt;Sr.&lt;/suffix&gt;   &lt;/name&gt; &lt;/informationRecipientPerson&gt; &lt;/informationRecipient&gt; &lt;receivedOrganization&gt;   &lt;name&gt;Level 7 Healthcare, Inc&lt;/name&gt; &lt;/receivedOrganization&gt; &lt;/intendedRecipient&gt; &lt;/informationRecipient&gt;</pre>	Schema Links
Information Recipient Intended Recipient Organization Recipient Choice Person	

## 4.6 Record Target

### 4.6.1 Description

Section Level: X2 M3  
Cardinality: 1..1

Record target outlines patient information, which includes patient identification mechanisms, patient characteristics, the patient's name, address and phone number. The record target document section is not supported at level 2 but mandatory at level 3 (X2 M3). The cardinality for this section is 1..1.

### 4.6.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.6.2.1 RecordTarget.PatientRole.ID	extension root assigningAuthorityName	Patient_PHN PHN_Province	Personal Health Number with corresponding province. Numerical lifetime identifier used in the specific identification of an individual client or patient who has any interaction with the (BC) health system.	EMS.II .RootE xtensi onAut hority	Canada Post: Province Codes/State Codes	R: 0..1	Use the AssigningAuthorityName attribute for the Province. Only use the codes for the Canadian Provinces/Territories.
4.6.2.2 RecordTarget.PatientRole.ID	extension root assigningAuthorityName	Patient_OtherID_Type Patient_OtherID	Type of secondary identification. Could be Workers Compensation Board Number, Interim Federal Health Number, Veteran Affairs Benefits Number, MRN (unique to each HA or facility) and/or Band Number.	EMS.II .RootE xtensi onAut hority		O: 0..*	Use the AssigningAuthorityName attribute for the type of ID. There must be at least one ID for a patient.
4.6.2.3. Patient Address							
4.6.2.3.a RecordTarget.PatientRole.AddressLine		Patient_Address	An address is where the patient resides.	AD		O: 0..1	
4.6.2.3.b RecordTarget.PatientRole.AddressCity		Patient_Address_City	City where the patient resides.	AD		O: 0..1	
4.6.2.3.c RecordTarget.Patient		Patient_Address_	Province or state where the	AD	Canada	O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	patientRole.AddressState		Province_State	patient resides.		Post: Province Codes/State Codes		
4.6.2.3.d	RecordTarget.PatientRole.AddressPostalCode		Patient_Address_Postal_Zip	Postal or zip code of where the patient resides.	AD		O: 0..1	
4.6.2.3.e	RecordTarget.PatientRole.AddressCountry		Patient_Country	Country where the patient resides.	AD	ISO: Country	O: 0..1	
4.6.2.4	RecordTarget.PatientRole.Telecommunication	value use	Patient_Telecom_Use Patient_Telecom_Value	A classification of the telecommunication type and value associated with it.	EMS.T EL	HL7: TelecommunicationAddressUse HL7: URLScheme	O: 0..*	
<b>4.6.2.5. Patient Name</b>								
4.6.2.5.a	RecordTarget.PatientRole.PatientNamePrefix		Patient_Prefix	The title used by the patient (i.e. Mr. Miss. Ms. Mrs.).	PN		O: 0..1	
4.6.2.5.b	RecordTarget.PatientRole.PatientNameGiven		Patient_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.6.2.5.c	RecordTarget.PatientRole.PatientNameFamily		Patient_Family_Name	Last name or family name of the patient.	PN		M: 1..1	
4.6.2.5.d	RecordTarget.PatientRole.PatientNameSuffix		Patient_Suffix	An addition to a surname to distinguish a person (e.g. III, Sr., Jr.).	PN		O: 0..1	
4.6.2.6	RecordTarget.PatientRole.AdministrativeGenderCode	code codeSystem codeSystemName displayName	Patient_Gender	Patient gender.	CE	HL7: AdministrativeGender NullFlavor Option: UNK - Unknown	R: 1..1	
4.6.2.7	RecordTarget.PatientRole.PatientBirthTime	value	Patient_DOB	Patient date of birth.	TS	NullFlavor Option: UNK - Unknown	R: 1..1	The patient DOB may not be a partial date.
4.6.2.8	RecordTarget.PatientRole	code	Patient_Preferred_Language	Primary language used for patient communication.	CS		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	Patient.LanguageCommunication.LanguageCode							
4.6.2.9	recordTarget	typeCode contextControlCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.  A code that specifies how this Participation contributes to the context of the current Act, and whether it may be propagated to descendant Acts whose association allows such propagation.		Voc.xsd: Participation Type Voc.xsd: ContextControl		
4.6.2.10	recordTarget.patientRole	ClassCode		A code specifying the major category of a Role as defined by HL7 vocabulary.		voc.xsd: RoleClass		

### 4.6.3 Example

Human Readable	
Since the header section of the CDA doesn't have a human readable component it is required that the vendor display the content of the following fields in the form of a table, in the specified order (left justified), under the title "Client Information" (left justified, bolded and underlined). The descriptors on the left side of the table must be entered by the vendor. Note that Name, DOB and age (calculated from the DOB) will repeat after Author and Intended Recipient information at the beginning of the document.	
<b><u>Client Information</u></b>	
Name:	<prefix><given><family><suffix>
DOB:	<birth time>
Gender:	<administrativeGenderCode>
Language:	<languageCode>
Identifiers:	<id> <id>
Address:	<streetAddressLine> <city>, <state> <postalCode> <country>
Phone:	<telecom value>
Email:	<telecom value>

**Patient Information**

Name:	<prefix><given><family><suffix>
DOB:	<birth time>
Gender:	<administrativeGenderCode>
Age:	Calculated from <birth time>

The concrete human readable example would look as such

**Patient Information**

Name:	Mrs. Eve E. Everywoman Jr.
DOB:	May 16, 1965
Gender:	F
Language:	English
Identifiers:	BC-PHN: 9999999999 WCB: 99999-9
Address:	2222 Home Street Ann Arbor, BC A1B 2C3 Canada
Phone:	(555) 555-2003
Email:	Eve.Everywoman@eg.net

**Patient Information**

Name:	Mrs. Eve E. Everywoman Jr.
DOB:	May 16, 1965
Gender:	Female
Age:	39

**XML Instance**

```
<recordTarget typeCode="RCT" contextControlCode="OP">
  <patientRole classCode="PAT">
    <id extension="999999999" root="2BFBA1E9-79C2-4bbb-B589-41B949BD6A3B" assigningAuthorityName="BC-PHN"/>
    <id extension="99999-9" assigningAuthorityName="WCB"/>
    <addr>
      <streetAddressLine>2222 Home Street</streetAddressLine>
      <city>Ann Arbor</city>
      <state>BC</state>
      <postalCode>A1B 2C3</postalCode>
      <country>CA</country>
    </addr>
    <telecom value="ph: (555) 555-2003" use="HP"/>
  </patientRole>
</recordTarget>
```

<pre>&lt;telecom value="email: Eve.Everywoman@eg.net" use="HP"/&gt; &lt;patientPatient&gt;   &lt;name&gt;     &lt;prefix&gt;Mrs.&lt;/prefix&gt;     &lt;given&gt;Eve&lt;/given&gt;     &lt;given&gt;E.&lt;/given&gt;     &lt;family&gt;Everywoman&lt;/family&gt;     &lt;suffix&gt;Jr.&lt;/suffix&gt;   &lt;/name&gt;   &lt;administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1" codeSystemName="HL7 - Administrative Gender" displayName="Female"/&gt;   &lt;birthTime value="19650516"/&gt;   &lt;languageCommunication&gt;     &lt;languageCode code="English"/&gt;   &lt;/languageCommunication&gt;   &lt;patientRole&gt;   &lt;/patientRole&gt; &lt;/recordTarget&gt;</pre>	Schema Links
RecordTarget PatientRole Patient LanguageCommunication	

## 4.7 Participant

### 4.7.1 Description

Section Level: X2 R3  
Cardinality: 0..\*

Participant outlines patient emergency and non-emergency contact information. The participant document section is not supported at level 2 and required at level 3 (X2 R3). The cardinality for this section is 0..\*.

### 4.7.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.7.2.1	Participant.ParticipatingEntity.Code	Contact_Relationship_Type	The relationship of the contact to the patient.	EMS.CE.Fully	HL7: PersonalRelationshipRoleType	R: 0..1	
4.7.2.2. Contact Address							
4.7.2.2.a	Participant.ParticipatingEntity.Addr.StreetAddressLine	Contact_Address	An address where the contact person resides.	AD		O: 0..1	
4.7.2.2.b	Participant.ParticipatingEntity.Addr.City	Contact_Address_City	The city where the contact person resides.	AD		O: 0..1	
4.7.2.2.c	Participant.ParticipatingEntity.Addr.State	Contact_Address_Province_State	The province or state where the contact person resides.	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.7.2.2.d	Participant.ParticipatingEntity.Addr.PostalCode	Contact_Address_Postal_Zip	The postal or zip code where the contact person resides.	AD		O: 0..1	
4.7.2.2.e	Participant.ParticipatingEntity.Addr.Country	Contact_Country	The country where the contact person resides.	AD	ISO: Country	O: 0..1	
4.7.2.3	Participant.ParticipatingEntity.Telecom	Contact_Telecom_Use Contact_Telecom_Value	A classification of the telecommunication type and value associated with it.	EMS.TEL	HL7: TelecommunicationAddressUse HL7: URLScheme	O: 0..*	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>4.7.2.4. Contact Name</b>							
4.7.2.4.a Participant.ParticipatingEntity.AssociatedPerson.Name.Prefix		Contact_Prefix	The title used by the contact (e.g. Mr., Mrs., Miss., Ms.).	PN		O: 0..1	
4.7.2.4.a Participant.ParticipatingEntity.AssociatedPerson.Name.Given		Contact_Given_Name	First name, second name, middle name of the contact.	PN		R: 0..1	
4.7.2.4.b Participant.ParticipatingEntity.AssociatedPerson.Name.Family		Contact_Family_Name	Last name or family name of the contact.	PN		R: 0..1	
4.7.2.4.c Participant.ParticipatingEntity.AssociatedPerson.Name.Suffix		Contact_Suffix	An addition to a surname to distinguish a contact person (i.e. III, Sr., Jr.).	PN		O: 0..1	
4.7.2.5 Participant	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		Voc.xsd: ParticipationType		
4.7.2.6 Participant.ParticipatingEntity	classCode		A code specifying the major category of a Role as defined by HL7 vocabulary.		Voc.xsd: RoleClassAssociate		

## 4.7.3 Example

Human Readable	
<i>Since the header section of the CDA doesn't have a human readable component it is required that the vendor display the content of the following fields in the form of tables, in the specified order (left justified), under the title "Contact Information" (left justified, bolded and underlined). The descriptors on the left side of the table and the table headers (Contact 1, Contact 2...) must be entered by the vendor.</i>	
<b><u>Contact Information</u></b>	
Contact 1	Contact 2
Name	Name
Relationship	Relationship
Address	Address
Phone	Phone
Email	Email



The concrete human readable example would look as such:

### Contact Information

Contact 1		Contact 2	
Name	Mr. Neville N. Nuclear III	Name	Ms. Nancy N. Nuclear Sr.
Relationship	Husband	Relationship	Daughter
Address	2222 Home Street Ann Arbor, BC A1B 2C3 Canada	Address	6666 Home Street. Ann Arbor, BC A1B 2C3 Canada
Phone	(555) 555-5001	Phone	(250) 555-5001
Email	Neville.Nuclear@eg.net	Email	Nancy.Nuclear@eg.net

### XML Instance

```

<participant typeCode="NOT">
  <participatingEntity classCode="CON">
    <code code="HUSB" codeSystem="F05716F7-BA77-4641-A8D8-6E3948CCD321" codeSystemName="HL7 - PersonalRelationshipRoleType" displayName="Husband"/>
  </addr>
  <streetAddressLine>2222 Home Street</streetAddressLine>
  <city>Ann Arbor</city>
  <state>BC</state>
  <postalCode>A1B 2C3</postalCode>
  <country>CA</country>
</addr>
<telecom value="tel:(555)555-5001" use="H"/>
<telecom value="mailto:Neville.Nuclear@eg.net" use="H"/>
<associatedPerson>
  <name>
    <prefix>Mr.</prefix>
    <given>Neville</given>
    <given>N.</given>
    <family>Nuclear</family>
    <suffix>III</suffix>
  </name>
  </associatedPerson>
</participatingEntity>
</participant>
<participant typeCode="NOT">
  <participatingEntity classCode="CON">
    <code code="NCHLD" codeSystem="F05716F7-BA77-4641-A8D8-6E3948CCD321" codeSystemName="PersonalRelationshipRoleType" displayName="Natural Child"/>
  </addr>
  <streetAddressLine>6666 Home Street</streetAddressLine>
  <city>Ann Arbor</city>
  <state>BC</state>
  <postalCode>A1B 2C3</postalCode>
  <country>CA</country>

```

<pre>&lt;/addr&gt; &lt;telecom value="tel:(555)555-5001" use="H"/&gt; &lt;telecom value="mailto:Nancy.Nuclear@eg.net" use="H"/&gt; &lt;associatedPerson&gt;   &lt;name&gt;     &lt;prefix&gt;Ms.&lt;/prefix&gt;     &lt;given&gt;Nancy&lt;/given&gt;     &lt;given&gt;N.&lt;/given&gt;     &lt;family&gt;Nuclear&lt;/family&gt;     &lt;suffix&gt;Sr.&lt;/suffix&gt;   &lt;/name&gt;   &lt;associatedPerson&gt;     &lt;/associatedPerson&gt;   &lt;/participant&gt; &lt;/participant&gt;</pre>	Schema Links
Participant ParticipatingEntity Person	

## 5 CDA Body Sections

### 5.1 Purpose

Section Level: M2 O3

Cardinality: 1..1

e-MS Document Section Code: 001

#### 5.1.1 Description

The purpose provides high-level information on the background of the clinical document (e.g. referral request or consultation report). It provides information on the reason for the referral, its urgency and whom the other providers involved in the care of the patient are.

The purpose document section is mandatory at level 3 (M2 O3). The cardinality for this section is 1..1. The e-MS document section code for purpose is 001

#### 5.1.2 Data Elements

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.1.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Document_Purpose_Section_Code	Code identifying the Purpose section. The value in this field should always be the LOINC code given.	EMS, CE, Full	e-MS Document Section Code: 001	M: 1..1	
5.1.2.2	Component.Section.Title		Document_Purpose_Section_Title	Human readable title of the section	ST		M: 1..1	
5.1.2.3	Component.Section.Text		Document_Purpose_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.1.2.4	Component.Section.Entry.Choice.Observation.Text		eMS_Purpose_Reason	Reason for the referral request.	ED		O: 0..1	
5.1.2.5	Component.Section.Entry.Choice.Observation.PriorityCode	code codeSystem codeSystemName displayName	eMS_Purpose_Urgency	Urgency for appointment booking and/or referral request.	CE	e-MS: Urgency	O: 0..1	
5.1.2.6	Component.Section.Entry		eMS_Purpose_Comments	Additional comments about the	PQ		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	.EntryChoice.Observation .Value			referral request.				
5.1.2.7	Component.Section.Entry .EntryChoice.Observation .Participant1.ParticipantRole.PlayingEntityChoice.playingPlayingEntity.Name		eMS_Purpose_Other_Provider	List of other providers currently involved in the care of the patient.	EN		O: 0..*	
5.1.2.8	Component.Section.Entry .EntryChoice.Observation .Participant1.ParticipantRole.PlayingEntityChoice.playingPlayingEntity.Desc		eMS_Purpose_Other_Provider_Reason	Reason for which each additional provider is involved in the care of the patient.	ED		O: 0..*	
5.1.2.9	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ParticipationInformationGenerator_X		
5.1.2.10	Component.Section.Entry .EntryChoice.Observation	moodCode		A code distinguishing whether an Act is conceived of as a factual statement or in some other manner as a command, possibility, goal, etc.		Voc.xsd: ActMoodDocumentObservation_X		
5.1.2.11	Component.Section.Entry .EntryChoice.Observation .Participant1	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		Voc.xsd: ParticipationType		

### 5.1.3 Example

Human Readable
<p><b>Purpose</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)</p> <p>Please see this patient regarding occasional occurrences of arrhythmia at rest accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain.</p> <p><b>Urgency:</b> expedite.</p> <p><b>Comments:</b> The patient expressed that this problem has gradually been getting worse over the course of the past year and a half.</p> <p><b>Providers currently involved in the care of the patient:</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make this line bold and underlined.)</p>

Other Provider	Reason	XML Instance
Dr. Vera V. Valve at Level 7 Healthcare, Inc	High blood pressure in the past	
Dr. Sara S. Specialize at Good Health Hospital	24 Hour ECG recording	
<pre> &lt;component&gt; &lt;section&gt; &lt;code code="001" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Document Section Codes" displayName="Purpose"/&gt; &lt;title&gt;Referral Purpose&lt;/title&gt; &lt;text&gt; &lt;paragraph&gt; Please see this patient regarding occasional occurrences of arrhythmia at rest accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain. &lt;/paragraph&gt; &lt;paragraph&gt; Urgency: expedite &lt;/paragraph&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Other Provider&lt;/th&gt; &lt;th&gt;Reason&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Dr. Vera V. Valve at Level 7 Healthcare, Inc&lt;/td&gt; &lt;td&gt;High blood pressure in the past&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Dr. Sara S. Specialize at Good Health Hospital&lt;/td&gt; &lt;td&gt;24 Hour ECG recording&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;paragraph&gt; Comments: The patient expressed that this problem has gradually been getting worse over the course of the past year and a half. &lt;/text&gt; &lt;entry typeCode="DRIV"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code nullFlavor="NA"/&gt; &lt;text&gt;Please see this patient regarding occasional occurrences of arrhythmia at rest accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain.&lt;/text&gt; &lt;priorityCode code="E" codeSystem="1261620F-C09D-4825-96E4-E808DCFA4D17" codeSystemName="eMS_Purpose_Urgency" displayName="Expedite " value="The patient expressed that this problem has gradually been getting worse over the course of the past year and a half.&lt;/value&gt; (call)"/&gt; </pre>		

<pre>&lt;participant1 typeCode="SPRF"&gt;   &lt;participantRole&gt;     &lt;playingEntityChoice&gt;       &lt;playingPlayingEntity&gt;         &lt;name&gt;Dr. Vera V. Valve at Level 7 Healthcare&lt;/name&gt;         &lt;desc&gt;High blood pressure in the past&lt;/desc&gt;       &lt;/playingPlayingEntity&gt;     &lt;/playingEntityChoice&gt;   &lt;/participantRole&gt; &lt;/participant1&gt; &lt;participant1 typeCode="SPRF"&gt;   &lt;participantRole&gt;     &lt;playingEntityChoice&gt;       &lt;playingPlayingEntity&gt;         &lt;name&gt;Dr. Sara S. Specialize at Good Health Hospital&lt;/name&gt;         &lt;desc&gt;24 Hour ECG recording&lt;/desc&gt;       &lt;/playingPlayingEntity&gt;     &lt;/playingEntityChoice&gt;   &lt;/participantRole&gt; &lt;/participant1&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Observation Participant ParticipantRole EntityChoice PlayingEntity	

## 5.2 Alerts

Section Level: O2 O3

Cardinality: 0..\*

e-MS Document Section Code: 002

### 5.2.1 Description

Alerts indicate some condition about which a care provider should be aware. In the case of the e-MS, the existence of an advance directive would also be considered a distinct alert. The alerts document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The e-MS document section code is 002.

Please note that Component.Section.Entry.Choice.Observation.Code is not used in this section. However it is a required element in the schema, therefore the nullFlavor of "NA" should be used.

### 5.2.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.2.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Alert_Section_Code	Code identifying the Alerts section. The value in this field should always be the LOINC code given.	EMS.CE: Full	e-MS Document Section Code: 002	M: 1..1	
5.2.2.2 Component.Section.Title		Alert_Section_Title	Human readable title of the section	ST		M: 1..1	
5.2.2.3 Component.Section.Text		Alert_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.2.2.4 Component.Section.Entry.Choice.Observation.Text		Alert_Type	Type of warning (i.e. history of violence, mental health, etc)	ED		O: 0..1	
5.2.2.5 Component.Section.Entry.Choice.Observation.EffectiveTime	value	Alert_Date	Date when the alert was first recorded on the patient chart.	IVL_TS		O: 0..1	This may be a partial date
5.2.2.6 Component.Section.Entry.Choice.Observation.Value		Alert_Comments	Additional comments regarding the alert.	PQ		O: 0..1	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.2.2.7 Component. Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:ParticipationInformationGenerator_X		
5.2.2.8 Component. Section.Entry.Choice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ActMoodDocumentObservation_X		

### 5.2.3 Example

Human Readable			
<b>Alerts</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)			
<b>Alert</b>	<b>Comments</b>	<b>Date</b>	
History of violence	Mostly towards family members	1999	
History of mental illness	Mild anxiety disorder	August 2000	
XML Instance			
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="002" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Document Section Codes" displayName="Alerts"/&gt; &lt;title&gt;Alerts&lt;/title&gt; &lt;text&gt;   &lt;table border="1"&gt;     &lt;tbody&gt;       &lt;tr&gt;         &lt;th&gt;Alert&lt;/th&gt;         &lt;th&gt;Comments&lt;/th&gt;         &lt;th&gt;Date&lt;/th&gt;       &lt;/tr&gt;       &lt;tr&gt;         &lt;td&gt;History of violence&lt;/td&gt;         &lt;td&gt;Mostly towards family members&lt;/td&gt;         &lt;td&gt;1999&lt;/td&gt;       &lt;/tr&gt;       &lt;tr&gt;         &lt;td&gt;History of mental illness&lt;/td&gt;         &lt;td&gt;Mild anxiety disorder&lt;/td&gt;         &lt;td&gt;August 2000&lt;/td&gt;       &lt;/tr&gt;     &lt;/tbody&gt;   &lt;/table&gt; </pre>			



<pre>&lt;/tbody&gt; &lt;/table&gt; &lt;/text&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code nullFlavor="NA"/&gt;       &lt;text&gt;History of violence&lt;/text&gt;       &lt;effectiveTime value="1999"/&gt;       &lt;value&gt;Mostly towards family members&lt;/value&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code nullFlavor="NA"/&gt;       &lt;text&gt;History of mental illness&lt;/text&gt;       &lt;effectiveTime value="20008"/&gt;       &lt;value&gt;Mild anxiety disorder&lt;/value&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Observation	

## 5.3 Social History/Risks

Section Level: O2 O3

Cardinality: 0..\*

LOINC document section code: 29762-2

### 5.3.1 Description

Social history and risks identify factors that may have a (usually) medical impact on the course of care of the patient. The social history and risks document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for social history is 29762-2.

### 5.3.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.3.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Risk_Section_Code	Code identifying the Social History/Risks section. The value in this field should always be the LOINC code given.	EMSC.E.Full	LOINC: 29762-2	M: 1..1	
5.3.2.2 Component.Section.Title		Risk_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.3.2.3 Component.Section.Text		Risk_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.3.2.4 Component.Section.Entry.Choice.Observation.Text		Risk_Type	Type of risk factor (usually has a medical impact). Examples may include alcohol use or smoking.	ED		O: 0..1	
5.3.2.5 Component.Section.Entry.Choice.Observation.Effective Time	value	Risk_Date Risk_End_Date	Date when the risk was first recorded on the patient chart and date when the risk ended.	IVL_TS		O: 0..1	This may be a partial date
5.3.2.6 Component.Section.Entry.Choice.Observation.Value		Risk_Comments	Additional comments regarding the risk factor.	ANY		O: 0..1	
5.3.2.7 Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		<a href="#">Voc.xsd:ParticipationInformationGenerator_X</a>		
5.3.2.8 Component.	moodCode		Mood code indicates whether an Act has		<a href="#">Voc.xsd:</a>		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
Section.Entry.Choice.Observation			happened (an event), or is a request for something to happen, or a goal or even a criterion.		x_ActMoodDocumentObservation_X		

### 5.3.3 Example

Human Readable			
<b>Social History/Risks</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)			
<b>Social History/Risk</b>	<b>Comments</b>	<b>Date</b>	
Smoking	2 packs of cigarettes per day in her early teens	1979-1982	
Alcohol consumption	3 glasses of wine per day	January 2000	
XML Instance			
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="29762-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Social History/Risks"/&gt; &lt;title&gt;Social History/Risks&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Social History/Risk&lt;/th&gt; &lt;th&gt;Comments&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Smoking&lt;/td&gt; &lt;td&gt;2 packs of cigarettes per day in her early teens&lt;/td&gt; &lt;td&gt;1979-1982&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Alcohol consumption&lt;/td&gt; &lt;td&gt;3 glasses of wine per day&lt;/td&gt; &lt;td&gt;January 2000&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;/text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code nullFlavor="NA"/&gt; </pre>			

<pre>&lt;text&gt;Smoking&lt;/text&gt; &lt;effectiveTime value="19790000000000.1982000000000000"/&gt; &lt;value&gt;2 packs of cigarettes per day starting in her early teens.&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code nullFlavor="NA"/&gt; &lt;text&gt;Alcohol consumption&lt;/text&gt; &lt;effectiveTime value="200001"/&gt; &lt;value&gt;3 glasses of wine per day.&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>		Schema Links
Component2		
BodyChoice		
StructuredBody		
Component6		
Section		
Entry2		
EntryChoice		
Observation		

## 5.4 Examination Measurements

Section Level: O2 O3

Cardinality: 0..\*

e-MS Document Section Code: 003

### 5.4.1 Description

Examination measurements provide information on the patients' height, weight, blood pressure and pulse. The examination measurements document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The e-MS document section code for examination measurements is 003.

### 5.4.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.4.2.1 Component:Section n.Code	code codeSystem codeSystemName displayName	Obs_Section_Code	Code identifying the Examination Measurements section. The value in this field should always be the LOINC code given.	EMS. CE.Ful l	e-MS Document Section Code: 003	M: 1..1	
5.4.2.2 Component:Section n.Title		Obs_Section_Title	Human readable title of the section	ST		M: 1..1	
5.4.2.3 Component:Section n.Text		Obs_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.4.2.4 Component:Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName	Obs_Height_Code	Code identifying height	CD	LOINC: 8302- 2	O: 0..1	
5.4.2.5 Component:Section n.Entry.Choice e.Observation.EffectiveTime	value	Obs_Height_Eff_Date	Effective date of the height observation.	IVL_T S		O: 0..1	This may be a partial date
5.4.2.6 Component:Section n.Entry.Choice e.Observation.Value		Obs_Height	Patient height consisting of numeric height values and unit of measurement.	PQ		O: 0..1	Enter height in inches or centimeters but not both.
5.4.2.7 Component:Section	code	Obs_Weight_Code	Code identifying weight	CD	LOINC: 3141-	O: 0..1	

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	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	n.Entry.Choice e.Observation.Code	codeSystem codeSystemName displayName value				9		
5.4.2.8	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_Weight_Eff_Date	Effective date of the weight observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.9	Component.Section n.Entry.Choice e.Observation.Value		Obs_Weight	Patient weight consisting of numeric weight value and unit of measurement.	PQ		O: 0..1	Enter weight in pounds or kilograms but not both.
5.4.2.10	Component.Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName value	Obs_Pulse_Code	Code identifying pulse	CD	LOINC:11328-2	O: 0..1	
5.4.2.11	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_Pulse_Eff_Date	Effective date of the pulse observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.12	Component.Section n.Entry.Choice e.Observation.Value		Obs_Pulse	Patient pulse.	PQ		O: 0..1	
5.4.2.13	Component.Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName value	Obs_BP_Code	Code identifying blood pressure	CD	e-MS data element code: 004	O: 0..1	
5.4.2.14	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_BP_Eff_Date	Effective date of the blood pressure observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.15	Component.Section n.Entry.Choice e.Observation.Value		Obs_BP	Patient systolic and diastolic blood pressure.	PQ		O: 0..1	
5.4.2.16	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		<a href="#">Voc.xsd:ParticipationInformationGenerator_X</a>		
5.4.2.1	Component.	moodCode		Mood code indicates		<a href="#">Voc.xsd:</a>		

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
7	Section.Entry.Choice.Observation			whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		x_ActMoodDocumentObservation_X		

### 5.4.3 Example

Human Readable				
Examination Measurements (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.) The table must expand or decrease in size depending on the amount of entries.				
	Height	Weight	Blood Pressure	Pulse
January 13, 2000	172 cm	65 kg	130/80	80 BPM
March 18, 2001	172 cm	70 Kg	145/95	90 BPM
September 22, 2003	172 cm	78 Kg	160/110	92 BPM
August 9, 2004	172 cm	80 Kg	160/130	94 BPM
XML Instance				
<pre> &lt;component&gt; &lt;section&gt;   &lt;code code="003" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Document Section Codes" displayName="Examination Measurements"/&gt;   &lt;title&gt;Examination Measurements&lt;/title&gt;   &lt;text&gt;     &lt;table border="1"&gt;       &lt;tbody&gt;         &lt;tr&gt;           &lt;th&gt;             &lt;th&gt;Height&lt;/th&gt;             &lt;th&gt;Weight&lt;/th&gt;             &lt;th&gt;Blood Pressure&lt;/th&gt;             &lt;th&gt;Pulse&lt;/th&gt;           &lt;/tr&gt;           &lt;tr&gt;             &lt;td&gt;               &lt;content emphasis="bold"&gt;January 13, 2000&lt;/content&gt;             &lt;/td&gt;             &lt;td&gt;172 cm&lt;/td&gt;             &lt;td&gt;65 Kg&lt;/td&gt;             &lt;td&gt;130/80&lt;/td&gt;             &lt;td&gt;80 BPM&lt;/td&gt;           &lt;/tr&gt;           &lt;tr&gt;             &lt;td&gt;March 18, 2001&lt;/td&gt;             &lt;td&gt;172 cm&lt;/td&gt;             &lt;td&gt;70 Kg&lt;/td&gt;             &lt;td&gt;145/95&lt;/td&gt;             &lt;td&gt;90 BPM&lt;/td&gt;           &lt;/tr&gt;           &lt;tr&gt;             &lt;td&gt;September 22, 2003&lt;/td&gt;             &lt;td&gt;172 cm&lt;/td&gt;             &lt;td&gt;78 Kg&lt;/td&gt;             &lt;td&gt;160/110&lt;/td&gt;             &lt;td&gt;92 BPM&lt;/td&gt;           &lt;/tr&gt;           &lt;tr&gt;             &lt;td&gt;August 9, 2004&lt;/td&gt;             &lt;td&gt;172 cm&lt;/td&gt;             &lt;td&gt;80 Kg&lt;/td&gt;             &lt;td&gt;160/130&lt;/td&gt;             &lt;td&gt;94 BPM&lt;/td&gt;           &lt;/tr&gt;         &lt;/tbody&gt;       &lt;/table&gt;     &lt;/text&gt;   &lt;/section&gt; &lt;/component&gt; </pre>				

```

<td>
  <content emphasis="bold">March 18, 2001</content>
</td>
<td>172 cm</td>
<td>70 Kg</td>
<td>145/95</td>
<td>90 BPM</td>
</tr>
<tr>
<td>
  <content emphasis="bold">September 22, 2003</content>
</td>
<td>172 cm</td>
<td>78 Kg</td>
<td>160/110</td>
<td>92 BPM</td>
</tr>
<tr>
<td>
  <content emphasis="bold">August 9, 2004</content>
</td>
<td>172 cm</td>
<td>80 Kg</td>
<td>160/130</td>
<td>94 BPM</td>
</tr>
</tbody>
</table>
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  <entryChoice>
    <Observation moodCode="EVN">
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      <effectiveTime value="20000113"/>
      <value>172 cm</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="3141-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Weight"/>
      <effectiveTime value="20000113"/>
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    </Observation>
  </entryChoice>
</entry>

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```

</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
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      <effectiveTime value="20000113"/>
      <value>80 bpm</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="004" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
      <effectiveTime value="20000113"/>
      <value>130/80</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="8302-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Height"/>
      <effectiveTime value="20010318"/>
      <value>172 cm</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="3141-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Weight"/>
      <effectiveTime value="20010318"/>
      <value>70 kg</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="11328-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Pulse"/>
      <effectiveTime value="20010318"/>
      <value>90 bpm</value>
    </Observation>
  </entryChoice>
</entry>

```

```

</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="004" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
      <effectiveTime value="20010318"/>
      <value>145/95</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="8302-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Height"/>
      <effectiveTime value="20030922"/>
      <value>172 cm</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="3141-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Weight"/>
      <effectiveTime value="20030922"/>
      <value>78 kg</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="11328-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Pulse"/>
      <effectiveTime value="20030922"/>
      <value>92 bpm</value>
    </Observation>
  </entryChoice>
</entry>
<entry typeCode="COMP">
  <entryChoice>
    <Observation moodCode="EVN">
      <code code="004" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
      <effectiveTime value="20030922"/>
      <value>160/110</value>
    </Observation>
  </entryChoice>
</entry>

```

<pre> &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code code="8302-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Height"/&gt; &lt;effectiveTime value="20040809"/&gt; &lt;value&gt;172 cm&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code code="3141-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Weight"/&gt; &lt;effectiveTime value="20040809"/&gt; &lt;value&gt;80 kg&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code code="11328-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Pulse"/&gt; &lt;effectiveTime value="20040809"/&gt; &lt;value&gt;94 bpm&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code code="004" codeSystem="B39DD860-FE4E-4025-820B-83BAEBD08EA2" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/&gt; &lt;effectiveTime value="20040809"/&gt; &lt;value&gt;160/130&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt; </pre>	<p>Schema Links</p> <p>Component2 BodyChoice StructuredBody Component6</p>
---	--

Section
Entry2
EntryChoice
Observation
EntryRelationship

## 5.5 Active Problem List

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 11450-4

### 5.5.1 Description

The active problem list provides information on current problems / diagnoses that may affect the care of the patient. The active problem list document section is optional at level 2 and optional at level 3 (R2 R3). The cardinality for this section is 0..\*. The LOINC document section code for problem list is 11450-4.

### 5.5.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.5.2.1 Component.Secti on.Code	code codeSystem codeSystemName displayName	Active_Condition_Sectio n_Code	Code identifying the Active Problem List section. The value in this field should always be the LOINC code given.	EMS CE.Fu ll	LOINC: 11450-4	M: 1..1	
5.5.2.2 Component.Secti on.Title		Active_Condition_Sectio n_Title	Human readable title of the section.	ST		M: 1..1	
5.5.2.3 Component.Secti on.Text		Active_Condition_Sectio n_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.5.2.4 Component.Secti on.Entry.Ch oice.Observation. Code	code codeSystem codeSystemName displayName value	Active_Condition_Diagn osis	Diagnosis of a current problem.	CE	ICD-9 diagnostic codes	O: 0..1	
5.5.2.5 Component.Secti on.Entry.Ch oice.Observation. EffectiveTime		Active_Condition_Onset _Date	Date of the onset of the problem.	IVL_T S		O: 0..1	This may be a partial date.
5.5.2.6 Component.Secti on.Entry.Ch oice.Observation. Value		Active_Condition_Comm ents	Additional comments regarding the current problem.	PQ		O: 0..1	
5.5.2.7 Component.	typeCode		A code specifying the		Voc.xsd:Par		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
Section.Entry			meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		ActRelationship		
5.5.2.8	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDocumentObservation_X		

### 5.5.3 Example

Human Readable			
<b>Active Problem List</b> <i>(Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)</i>			
Active Problem	Description	Date	
Hypertension	Continuing to increase in severity.	December 2002	
XML Instance			
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="11450-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Active Problem List"/&gt; &lt;title&gt;Active Problem List&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Active Problem&lt;/th&gt; &lt;th&gt;Description&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Hypertension&lt;/td&gt; &lt;td&gt;Continuing to increase in severity.&lt;/td&gt; &lt;td&gt;December 2002&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt;</pre>			

<pre>&lt;code code="401" codeSystem="2.16.840.1.113883.6.2" codeSystemName="ICD-9" displayName="Hypertension"/&gt; &lt;effectiveTime value="200212"/&gt; &lt;value&gt;This is continuing to increase in severity.&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Observation	

## 5.6 Current Medications

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 19789-7

### 5.6.1 Description

The current medications information provides details on the medications the patient is currently taking. The current medications document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for medications is 19789-7.

### 5.6.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.6.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Med_Section_Code	Code identifying the Current Medications section. The value in this field should always be the LOINC code given.	EMS_CEFUL	LOINC: 19789-7	M: 1..1	
5.6.2.2 Component.Section.Title		Med_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.6.2.3 Component.Section.Text		Med_Section_Text	This field will be used to enter all of the data for this section.at level 2.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.6.2.4 Component.Section.Entry.EntryChoice.SubstanceAdministration.Effective Time	value	Med_Effective_Date Med_Stop_Date	The date that the patient began taking the medication and the date when the patient ended taking the medication.	IVL_TS		O: 0..1	
5.6.2.5 Component.Section.Entry.EntryChoice.SubstanceAdministration.Effective Time.Low	value	Med_Frequency	Value of the frequency of administration of the prescribed medication (e.g. 24 used in the case of per day).	IVL_TS		O: 0..1	
5.6.2.6 Component.Section.Entry.EntryChoice.SubstanceAdministration.Effective Time.Width	unit	Med_Frequency	Unit of the frequency of administration of the prescribed medication (e.g. h used in the case of per day).	IVL_TS		O: 0..1	
5.6.2.7 Component.Section.Entry.EntryChoice.SubstanceAdministration.RepeatNumber	value	Med_Repeats	Number of repeats for the prescribed medication.	IVL_INT		O: 0..1	



Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.6.2.8 Component.Section.Entry. EntryChoice.SubstanceAd ministration.RouteCode	code codeSystem codeSystemName displayName	Med_Administration_ Route	The route the prescribe medication is to be administered (e.g. oral, nasal, needle, etc.).	CE	HL7: MedAdmini strationRoute	O: 0..1	
5.6.2.9 Component.Section.Entry. EntryChoice.SubstanceAd ministration.DoseQuantity	value unit	Med_Dose	The dosage of the prescribed medication (e.g. 2 * 250 mg)	PQ		O: 0..1	
5.6.2.10 Component.Section.Entry. EntryChoice.SubstanceAd ministration.Consumable.Manu facturedDrugOrOtherMateri al.ManufacturedLabeledDr ug.Code	code codeSystem codeSystemName displayName	Med_DIN_ID Med_DIN_Name	The Drug Identification Number for the prescribed medication.	CE		O: 0..1	
5.6.2.11 Component.Section.Entry. EntryChoice.SubstanceAd ministration.Consumable.Manu facturedProduct.Manuf acturedDrugOrOtherMateri al.ManufacturedLabeledDr ug.Name		Med_Name	The other name (brand or generic) of the prescribed medication.	EN		O: 0..1	
5.6.2.12 Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:Par ticipationInf ormationGe nerator_X		
5.6.2.13 Component.Section.Entry. EntryChoice.SubstanceAd ministration	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bservation_ X		

### 5.6.3 Example

Human Readable						
<b>Current Medications</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)						
<b>Medication Name</b> Accupril 5 mg	<b>DIN</b> 01947664	<b>DIN Name</b> Quinapril	<b>Dose</b> 10 mg	<b>Admin Route</b> Orally	<b>Frequency</b> 2 per day	<b>Repeats</b> 2
						<b>Effective Date</b> Jan 15, 2003
<b>XML Instance</b>						
<component> <section>						

```

<code code="19789-7" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Current Medications"/>
<title>Current Medications</title>
<text>
  <table border="1">
    <tbody>
      <tr>
        <th>Medication Name</th>
        <th>DIN</th>
        <th>DIN Name</th>
        <th>Dose</th>
        <th>Admin Route</th>
        <th>Frequency</th>
        <th>Repeats</th>
        <th>Effective Date</th>
      </tr>
      <tr>
        <td>Accupril 5 mg</td>
        <td>01947664</td>
        <td>Quinapril</td>
        <td>10 mg</td>
        <td>Orally</td>
        <td>2 per day</td>
        <td>2</td>
        <td>Jan 15, 2003</td>
      </tr>
    </tbody>
  </table>
</text>
<entry typeCode="COMP">
  <entryChoice>
    <SubstanceAdministration moodCode="EVN">
      <effectiveTime value="20030115">
        <low value="24"/>
        <width unit="h"/>
      </effectiveTime>
      <repeatNumber value="2"/>
      <routeCode code="PO" codeSystem="2.16.840.1.113883.5.112" codeSystemName="RouteOfAdministration" displayName="per os"/>
      <doseQuantity value="10.0" unit="mg"/>
      <consumable>
        <manufacturedProduct>
          <manufacturedDrugOrOtherMaterial>
            <manufacturedLabeledDrug>
              <code code="01947664" codeSystem="36F030E1-180A-4c53-AEF6-7EEA32B531B3" codeSystemName="DIN" displayName="Quinapril"/>
              <name>Accupril 5 mg</name>
            </manufacturedLabeledDrug>
          </manufacturedDrugOrOtherMaterial>
        </manufacturedProduct>
      </consumable>
    </SubstanceAdministration>
  </entryChoice>
</entry>

```

<a href="#">&lt;/manufacturedProduct&gt;</a> <a href="#">&lt;/consumable&gt;</a> <a href="#">&lt;/SubstanceAdministration&gt;</a> <a href="#">&lt;/entryChoice&gt;</a> <a href="#">&lt;/entry&gt;</a> <a href="#">&lt;/section&gt;</a> <a href="#">&lt;/component&gt;</a>	<b>Schema Links</b>
<a href="#">Component2</a> <a href="#">BodyChoice</a> <a href="#">StructuredBody</a> <a href="#">Component6</a> <a href="#">Section</a> <a href="#">Entry2</a> <a href="#">EntryChoice</a> <a href="#">SubstanceAdministration</a> <a href="#">Consumable</a> <a href="#">ManufacturedProduct</a> <a href="#">DrugOrOtherMaterial</a> <a href="#">LabeledDrug</a>	

## 5.7 Medical History

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 11348-0

### 5.7.1 Description

The medical history information provides details on the past conditions or diagnosis that the patient may have had which would have an affect on their care. The medical history document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for history of past illness is 11348-0.

### 5.7.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.7.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Past_Condition_Section_Code	Code identifying the Medical History section. The value in this field should always be the LOINC code given.	EMS. CE.Fully Qualified	LOINC: 11348-0	M: 1..1	
5.7.2.2 Component.Section.Title		Past_Condition_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.7.2.3 Component.Section.Text		Past_Condition_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.7.2.4 Component.Section.Entry .EntryChoice.Observation .Code	code codeSystem codeSystemName value	Past_Condition_Diagnosis	The diagnosis of a past condition.	CE	ICD-9 diagnostic codes	O: 0..1	
5.7.2.5 Component.Section.Entry .EntryChoice.Observation .EffectiveTime		Past_Onset_Date Past_Date_Resolved	The date of the past condition onset / occurrence / incident and the date the condition was resolved.	IVL_TS		O: 0..1	This may be a partial date.
5.7.2.6 Component.Section.Entry .EntryChoice.Observation .Value		Past_Condition_Comments	Additional comments regarding the past condition.	PQ		O: 0..1	
5.7.2.7 Component. Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in		Voc.xsd:ParticipationInformationGenerator_X		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.7.2.8 Component. Section.Entry.Choice e.Observation	moodCode		which way. Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bservation_ X		

### 5.7.3 Example

Human Readable		
<b><u>Medical History</u></b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)		
<b>Problem</b>	<b>Comments</b>	<b>Date</b>
Meningitis	No permanent effects.	1975
Closed fractured rib	Patient is unsure of which rib it was.	1994
<b>XML Instance</b>		
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="11348-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Medical History"/&gt; &lt;title&gt;Medical History&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Problem&lt;/th&gt; &lt;th&gt;Comments&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Meningitis&lt;/td&gt; &lt;td&gt;No permanent effects.&lt;/td&gt; &lt;td&gt;1975&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Closed fractured rib&lt;/td&gt; &lt;td&gt;Patient is unsure of which rib it was.&lt;/td&gt; &lt;td&gt;1994&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt;</pre>		

<pre>&lt;Observation moodCode="EVN"&gt;   &lt;code code="322.9" codeSystem="2.16.840.1.113883.6.2" codeSystemName="ICD-9" displayName="meningitis"/&gt;   &lt;effectiveTime value="1975"/&gt;   &lt;value&gt;No permanent effects.&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code code="807.01" codeSystem="2.16.840.1.113883.6.2" codeSystemName="ICD-9" displayName="closed fractured rib"/&gt;       &lt;effectiveTime value="1994"/&gt;       &lt;value&gt;Patient is unsure of which rib it was.&lt;/value&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	
Schema Links	
Component2	
BodyChoice	
StructuredBody	
Component6	
Section	
Entry2	
EntryChoice	
Observation	

## 5.8 Surgical History

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 10167-5

### 5.8.1 Description

The surgical history information provides details on past-completed surgical procedures that may have an affect on the care of the patient. The surgical history document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for history of surgical procedures is 10167-5.

### 5.8.2 Data Elements

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.8.2.1	Component:Section .Code	code codeSystem codeSystemName displayName	Surgical_Section_Code	Code identifying the Surgical History section. The value in this field should always be the LOINC code given.	EMS_CEE_Full	LOINC: 10167-5	M: 1..1	
5.8.2.2	Component:Section .Title		Surgical_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.8.2.3	Component:Section .Text		Surgical_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.8.2.4	Section.Entry.Entry Choice.Procedure.Text		Surgical_Procedure_Description	A description of the surgical procedure.	ED		O: 0..1	
5.8.2.5	Component:Section .Entry.EntryChoice.Procedure.Effective Time	value	Surgical_Procedure_Date	The date of the completed surgical procedure.	IVL_TS		O: 0..1	This may be a partial date.
5.8.2.6	Component:Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects		<a href="#">Voc.xsd:ParticipationInformationGenerator_X</a>		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.8.2.7 Component. Section.Entry.Entry Choice.Procedure	MoodCode		can be related and in which way. Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentOb servation_ X		

### 5.8.3 Example

Human Readable							
<b><u>Surgical History</u></b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)							
<table><tr><th>Description</th><th>Date</th></tr><tr><td>Appendectomy</td><td>June 1970</td></tr><tr><td>Cholelithotomy</td><td>January 17, 2004</td></tr></table>	Description	Date	Appendectomy	June 1970	Cholelithotomy	January 17, 2004	
Description	Date						
Appendectomy	June 1970						
Cholelithotomy	January 17, 2004						
XML Instance							
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="10167-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Surgical History"/&gt; &lt;title&gt;Surgical History&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Description&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Appendectomy&lt;/td&gt; &lt;td&gt;June 1970&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Cholelithotomy&lt;/td&gt; &lt;td&gt;January 17, 2004&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;/text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Procedure moodCode="EVN"&gt;</pre>							



<pre>&lt;text&gt;Appendectomy&lt;/text&gt; &lt;effective Time value="197006"/&gt; &lt;/Procedure&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Procedure moodCode="EVN"&gt; &lt;text&gt;Cholelithotomy&lt;/text&gt; &lt;effective Time value="20040117"/&gt; &lt;/Procedure&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Procedure	

## 5.9 Medical Imaging History

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 35090-0

### 5.9.1 Description

The medical imaging history information provides details on past-completed medical imaging procedures such as, for example, x-rays, CT Scans, MRI's, etc. that may have an affect on the care of the patient. The medical imaging history document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for history of medical imaging is 35090-0.

Please note that Component.Section.Entry.Choice.Observation.Code is not used in this section. However it is a required element in the schema, therefore the nullFlavor of "NA" should be used.

### 5.9.2 Data Elements

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.9.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	MI_Procedure_Section_ Code	Code identifying the Medical Imaging History section. The value in this field should always be the LOINC code given.	EMS. CE.Ful I	LOINC: 35090-0	M: 1..1	
5.9.2.2	Component.Section.Title		MI_Procedure_Section_ Title	Human readable title of the section.	ST		M: 1..1	
5.9.2.3	Component.Section.Text		MI_Procedure_Section_ Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.9.2.4	Component.Section.Entry.Choice.Observation.Text		MI_Procedure_Descripti on	A description of the medical imaging procedure that was performed.	ED		O: 0..1	
5.9.2.5	Component.Section.Entry.Choice.Observation.EffectiveTime	value	MI_Procedure_Date	The date that the medical imaging procedure was performed.	IVL_T S		O: 0..1	This may be a partial date.
5.9.2.6	Component.Section.Entry.Choice.Observation.Value		MI_Procedure_Results	Additional comments regarding the radiology procedure and/or findings.	PQ		O: 0..1	
5.9.2.7	Component.	typeCode		A code specifying the meaning and	CS	<a href="#">Voc.xsd:</a>		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
Section.Entry			purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Participatio nInformatio nGenerator_X		
5.9.2.8 Component. Section.Entry.EntryChoice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bservation_X		

### 5.9.3 Example

Human Readable			
<b><u>Medical Imaging History</u></b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)			
Procedure	Results	Date	XML Instance
Chest x-ray	Nothing unusual could be observed. X-ray image is attached.	July 14, 2004	
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="35090-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Medical Imaging History"/&gt; &lt;title&gt;Medical Imaging History&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Procedure&lt;/th&gt; &lt;th&gt;Results&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;td&gt;Chest x-ray&lt;/td&gt; &lt;td&gt;Nothing unusual could be observed. X-ray image is attached.&lt;/td&gt; &lt;td&gt;July 14, 2004&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt; &lt;code nullFlavor="UNK"/&gt; </pre>			

<pre>&lt;text&gt;Chest x-ray&lt;/text&gt; &lt;effectiveTime value="20040714"/&gt; &lt;value&gt;Nothing unusual could be observed. X-ray image is attached.&lt;/value&gt; &lt;entryRelationship typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;ObservationMedia&gt;       &lt;value mediaType="image/jpeg"&gt;         &lt;reference value="test.jpg"/&gt;       &lt;/value&gt;     &lt;/ObservationMedia&gt;   &lt;/entryChoice&gt; &lt;/entryRelationship&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	
Schema Links	
Component2	
BodyChoice	
StructuredBody	
Component6	
Section	
Entry2	
EntryChoice	
Observation	

## 5.10 Other Treatments

Section Level: O2 O3

Cardinality: 0..\*

e-MS Document Section Code: 005

### 5.10.1 Description

The other treatments information provides details on other types of therapy or treatment that the patient may have received or is receiving and that may have an affect on the care of the patient. The other treatments document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The e-MS document section code for other treatments is 005.

Please note that Component.Section.Entry.Choice.Observation.Code is not used in this section. However it is a required element in the schema, therefore the nullFlavor of "NA" should be used.

### 5.10.2 Data Elements

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.10.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Other_Treatment_Se ction_Code	Code identifying the Other Treatments section. The value in this field should always be the LOINC code given.	EMS. CE.Ful l	e-MS Document Section Code: 005	M: 1..1	
5.10.2.2	Component.Section.Title		Other_Treatment_Se ction_Title	Human readable title of the section.	ST		M: 1..1	
5.10.2.3	Component.Section.Text		Other_Treatment_Se ction_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.10.2.4	Component.Section.Entry. Entry.Choice.Observation.T ext		Other_Treatment_Ty pe	Other treatment options that the patient has tried (other than medication and procedures).	ED		O: 0..1	
5.10.2.5	Component.Section.Entry. Entry.Choice.Observation. Effective Time	value	Other_Treatment_Da te	The date when the other treatment was ordered or when the provider was notified by the patient of the alternative therapy decision.	IVL_T S		O: 0..1	This may be a partial date.
5.10.2.6	Component.Section.Entry. Entry.Choice.Observation. Value		Other_Treatment_ Outcome	The outcome of the other treatment.	PQ		O: 0..1	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.10.2.7	Component.Section.Entry typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: Participatio nInformatio nGenerator_X		
5.10.2.8	Component.Section.Entry. entryChoice.Observation moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentOb servation_X		

### 5.10.3 Example

Human Readable		
<b>Other Treatments</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)		
Other Treatment	Outcome	Date
Herbal remedy	The patient did not experience any improvement in her condition	November 2003-February 2004
<b>XML Instance</b>		
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="005" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Document Section Codes" displayName="Other Treatments"/&gt; &lt;title&gt;Other Treatments&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Other Treatment&lt;/th&gt; &lt;th&gt;Outcome&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Herbal remedy&lt;/td&gt; &lt;td&gt;The patient did not experience any improvement in her condition&lt;/td&gt; &lt;td&gt;November 2003-February 2004&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;text&gt; &lt;entry typeCode="COMP"&gt; &lt;entryChoice&gt; &lt;Observation moodCode="EVN"&gt;</pre>		

<pre>&lt;code nullFlavor="NA"/&gt; &lt;text&gt;Herbal remedy&lt;/text&gt; &lt;effectiveTime value="20031100000000.200402000000000"/&gt; &lt;value&gt; The patient did not experience any improvement in her condition.&lt;/value&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Observation	

## 5.11 Allergies

Section Level: O2 O3

Cardinality: 0..\*

e-MS Document Section Code: 006

### 5.11.1 Description

The allergies information provides details on different allergies or adverse reactions that a patient may have or have had. The allergies document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The e-MS document section code for allergies is 006.

### 5.11.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.11.2.1 Component.Secti on.Code	code codeSystem codeSystemName displayName	Allergy_Section_Code	Code identifying the Allergies section. The value in this field should always be the LOINC code given.	EMS. CE.F ull	e-MS Document Section Code: 006	M: 1..1	
5.11.2.2 Component.Secti on.Title		Allergy_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.11.2.3 Component.Secti on.Text		Allergy_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.11.2.4 Component.Secti on.Entry.EntryCh oice.Observation. Code	code codeSystem codeSystemName displayName	Allergy_Type	A description of the allergy or adverse reaction.	CE	<a href="#">HL7: Allergy Type</a>	O: 0..1	
5.11.2.5 Component.Secti on.Entry.EntryCh oice.Observation. Effective Time	value	Allergy_Date Allergy_End_Date	The date when the allergy or adverse reaction was recorded on the patient chart and the date that the allergy problem or adverse reaction was resolved.	IVL_ TS		O: 0..1	This may be a partial date.
5.11.2.6 Component.Secti on.Entry.EntryCh oice.Observation. Value		Allergy_Comments	Any additional comments regarding the allergy or adverse reaction including the allergen.	PQ		O: 0..1	
5.11.2.7 Component.Secti	code	Allergy_Severity	The severity of the allergy or	CE	<a href="#">HL7: Allergy</a>	O: 0..1	



	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	on.Entry.EntryChoice.Observation.EntryRelationship.EntryChoice.Observation.Code	codeSystemName codeSystemName displayName		adverse reaction.		Severity		
5.11.2.8	Component.Secti on.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ParticipationInformationGenerator_X		
5.11.2.9	Component.Secti on.Entry.EntryChoice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDocumentObservation_X		

### 5.11.3 Example

Human Readable			
<b>Allergies</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)			
Allergy Type	Severity	Comments (Allergen, reaction)	Date
Drug Allergy	Mild	Penicillin. Resulting in hives. Patient hasn't been tested recently to see if this is still an active allergy	1965
Food Allergy	Moderate	Dairy. Resulting in puffy eyes	1970-1985
XML Instance			
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="006" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B" codeSystemName="e-MS Document Section Codes" displayName="Allergies"/&gt; &lt;title&gt;Allergies&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tr&gt; &lt;th&gt;Allergy Type&lt;/th&gt; &lt;th&gt;Severity&lt;/th&gt; &lt;th&gt;Comments&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Drug Allergy&lt;/td&gt; &lt;td&gt;Mild&lt;/td&gt; &lt;td&gt;Penicillin. Resulting in hives. Patient hasn't been tested recently to see if this is still an active allergy&lt;/td&gt; &lt;td&gt;1965&lt;/td&gt; &lt;/tr&gt; &lt;tr&gt; &lt;td&gt;Food Allergy&lt;/td&gt; &lt;td&gt;Moderate&lt;/td&gt; &lt;td&gt;Dairy. Resulting in puffy eyes&lt;/td&gt; &lt;td&gt;1970-1985&lt;/td&gt; &lt;/tr&gt; &lt;/table&gt; </pre>			

```
<td>Penicillin. Resulting in hives. Patient hasn't been tested recently to see if this is still an active allergy</td>
<td>1965</td>
</tr>
<tr>
<td>Dairy products</td>
<td>Moderate</td>
<td>Dairy. Resulting in puffy eyes</td>
<td>1970-1985</td>
</tr>
</tbody>
</table>
<text>
<entry typeCode="COMP">
<entryChoice>
<Observation moodCode="EVN">
<code code="DA" codeSystem="2A9DDF65-2465-4cf7-903C-832A33B22F5D" codeSystemName="AllergyType" displayName="Drug Allergy"/>
<effectiveTime value="19650516"/>
<value>Penicillin. Resulting in hives. Patient hasn't been tested recently to see if this is still an active allergy</value>
<entryRelationship typeCode="COMP">
<entryChoice>
<Observation moodCode="EVN">
<code code="MI" codeSystem="2.16.840.1.113883.12.128" codeSystemName="AllergySeverity" displayName="Mild"/>
</Observation>
</entryChoice>
</entryRelationship>
</entryChoice>
</entry>
<entry typeCode="COMP">
<entryChoice>
<Observation moodCode="EVN">
<code code="FA" codeSystem="2A9DDF65-2465-4cf7-903C-832A33B22F5D" codeSystemName="AllergyType" displayName="Food Allergy"/>
<effectiveTime value="1970000000000.19850000000000"/>
<value>Dairy. Resulting in puffy eyes</value>
<entryRelationship typeCode="COMP">
<entryChoice>
<Observation moodCode="EVN">
<code code="MO" codeSystem="2.16.840.1.113883.6.1" codeSystemName="AllergySeverity" displayName="Moderate"/>
</Observation>
</entryChoice>
</entryRelationship>
</entryChoice>
</entry>
</section>
</component>
```

Schema Links	
<a href="#">Component2</a>	
<a href="#">BodyChoice</a>	
<a href="#">StructuredBody</a>	
<a href="#">Component6</a>	
<a href="#">Section</a>	
<a href="#">Entry2</a>	
<a href="#">EntryChoice</a>	
<a href="#">Observation</a>	
<a href="#">EntryRelationship</a>	

## 5.12 Immunization

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 11369-6

### 5.12.1 Description

The allergies information provides details on different allergies or adverse reactions that a patient may have or have had. The allergies document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for immunization is 11369-6.

### 5.12.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.12.2.1 Component.Secti on.Code	code codeSystem codeSystemName displayName	Immunization_Section_C ode	Code identifying the Immunization section. The value in this field should always be the LOINC code given.	EMS. CE.Fu ll	LOINC: 11369-6	M: 1..1	
5.12.2.2 Component.Secti on.Title		Immunization_Section_T itle	Human readable title of the section.	ST		M: 1..1	
5.12.2.3 Component.Secti on.Text		Immunization_Section_T ext	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.12.2.4 Component.Secti on.EntryCh oice.Observation. Code	code codeSystem codeSystemName displayName	Immunization_Code	The code of the immunization that was administered.	CE	BCCDC: BC Vaccination Codes	O: 0..1	
5.12.2.5 Component.Secti on.EntryCh oice.Observation. EffectiveTime		Immunization_Date	The date that the immunization was administered.	IVL_T S		O: 0..1	This may be a partial date.
5.12.2.6 Component.Secti on.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can		Voc.xsd: ParticipationI nformationG enerator_X		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.12.2.7	Component.Secti on.Entry.EntryCh oice.Observation	moodCode	mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodD ocumentObs ervation_X		

### 5.12.3 Example

Human Readable											
<b>Immunization</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)											
<table> <tr> <th>Immunization</th><th>Date</th></tr> <tr> <td>Hepatitis A</td><td>September 24, 2000</td></tr> <tr> <td>Hepatitis A</td><td>January 27, 2002</td></tr> <tr> <td>Inactivated Polio Vaccine (study)</td><td>March 13, 1985</td></tr> <tr> <td>Measles Mumps Rubella</td><td>April 30, 1995</td></tr> </table>	Immunization	Date	Hepatitis A	September 24, 2000	Hepatitis A	January 27, 2002	Inactivated Polio Vaccine (study)	March 13, 1985	Measles Mumps Rubella	April 30, 1995	
Immunization	Date										
Hepatitis A	September 24, 2000										
Hepatitis A	January 27, 2002										
Inactivated Polio Vaccine (study)	March 13, 1985										
Measles Mumps Rubella	April 30, 1995										
XML Instance											
<pre> &lt;component&gt; &lt;section&gt; &lt;code code="11369-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Immunization"/&gt; &lt;title&gt;Immunization&lt;/title&gt; &lt;text&gt; &lt;table border="1"&gt; &lt;tbody&gt; &lt;tr&gt; &lt;th&gt;Immunization&lt;/th&gt; &lt;th&gt;Date&lt;/th&gt; &lt;tr&gt; &lt;td&gt;Hepatitis A&lt;/td&gt; &lt;td&gt;September 24, 2000&lt;/td&gt; &lt;tr&gt; &lt;td&gt;Hepatitis A&lt;/td&gt; &lt;td&gt;January 27, 2002&lt;/td&gt; &lt;tr&gt; &lt;td&gt;Inactivated Polio Vaccine (study)&lt;/td&gt; &lt;td&gt;March 13, 1985&lt;/td&gt; &lt;tr&gt; &lt;td&gt;Measles Mumps Rubella&lt;/td&gt; &lt;td&gt;April 30, 1995&lt;/td&gt; </pre>											

<pre>&lt;tr&gt;   &lt;td&gt; Measles Mumps Rubella&lt;/td&gt;   &lt;td&gt; April 30, 1995&lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt; &lt;/table&gt; &lt;/text&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code code="HA" codeSystem="FC1AFD51-7DC6-404c-9B06-C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Hepatitis A"/&gt;       &lt;effectiveTime value="20000924"/&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code code="HA" codeSystem="FC1AFD51-7DC6-404c-9B06-C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Hepatitis A"/&gt;       &lt;effectiveTime value="20020127"/&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code code="IPV" codeSystem="FC1AFD51-7DC6-404c-9B06-C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Inactivated Polio Vaccine (study)"/&gt;       &lt;effectiveTime value="19850313"/&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;entry typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;Observation moodCode="EVN"&gt;       &lt;code code="MMR" codeSystem="FC1AFD51-7DC6-404c-9B06-C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Measles Mumps Rubella"/&gt;       &lt;effectiveTime value="19950430"/&gt;     &lt;/Observation&gt;   &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	
Schema Links	
Component2 BodyChoice	

StructuredBody  
Component6  
Section  
Entry2  
EntryChoice  
Observation

## 5.13 Labs

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 11502-2

### 5.13.1 Description

The laboratory information provides details on different laboratory tests or procedures that were performed on the patient that may have an affect on the treatment of the patient. The labs document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for labs is 11502-2.

*Please note that lab codes are still being investigated.*

### 5.13.2 Data Elements

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.13.2.1	Component:Section.Code	code codeSystem codeSystemName displayName	Labs_Section_Code	Code identifying the Labs section. The value in this field should always be the LOINC code given.	EMS. CE.Ful I	LOINC: 11502-2	M	
5.13.2.2	Component:Section.Title		Labs_Section_Title	Human readable title of the section.	ST		M	
5.13.2.3	Component:Section.Text		Labs_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M	
<b>Level 3 Data Elements</b>								
5.13.2.4	Component:Section.Entry.Choice.Observation.Code	code codeSystem codeSystemName displayName value	Labs_Test_Type	The type of test that was ordered.	CE		R: 0..1	
5.13.2.5	Component:Section.Entry.Choice.Observation.effectiveTime		Labs_Test_Specimen_Collected_Date/ Time	The date and time that the specimen was collected for the test.	IVL_T S		O: 0..1	
5.13.2.6	Component:Section.Entry.Choice.Observation.value		Labs_Test_Result	The result of the test.	PQ		O: 0..1	
5.13.2.7	Component:Section.E	code	Labs_Normal_Result_R	The value range, which is considered	ED		O: 0..1	



Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
entry.Choice.Observation.interpretation.Code	codeSystemName display	ange	normal for the specific laboratory test (includes unit and measurement).				
5.13.2.8 Component.Section.Entry.Choice.Observation.referenceRange.value		Labs_Abnormal_Result_Flag	Flag for abnormal test results.	CE		O: 0..1	The abnormal flag originally sent by the lab should be used.
5.13.2.9 Component.Section.Entry.Choice.Observation.Performer.asignedEntity.ID	extension	Labs_Source	The laboratory where the result originated / test was performed.	II	BC Lab Standard: Diagnostic Facilities Listing	O: 1..1	
5.13.2.10 Component.Section.Entry.Choice.Observation	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: Participatio nInformatio nGenerator X		
5.13.2.11 Component.Section.Entry.Choice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bserveration_ X		

### 5.13.3 Example

Human Readable				
<b>Labs</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)				
Type	Collection Date	Result/Unit	Normal Result Range	Abnormal?
troponin I (TnI)	February 26, 2004	0.5 ng/mL	< 0.5 ng/mL	No
creatinine phosphokinase (CPK)	February 26, 2004	180 u/L	5-200 u/L	No
lactate dehydrogenase (LDH)	February 26, 2004	400 u/L	200-650 u/L	No
XML Instance				
<pre>&lt;component&gt; &lt;section&gt; &lt;code code="11502-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Labs"/&gt; &lt;title&gt;Labs&lt;/title&gt; &lt;text&gt;</pre>				

```
<table border="1">
  <tbody>
    <tr>
      <th>Type</th>
      <th>Collection Date</th>
      <th>Result/Unit</th>
      <th>Normal Result Range</th>
      <th>Abnormal?</th>
    </tr>
    <tr>
      <td>troponin I (Tnl)</td>
      <td>February 26, 2004</td>
      <td>0.5 ng/mL</td>
      <td>less than 0.5 ng/mL</td>
      <td>No</td>
    </tr>
    <tr>
      <td>creatine phosphokinase (CPK)</td>
      <td>February 26, 2004</td>
      <td>180 u/L</td>
      <td>5-200 u/L</td>
      <td>No</td>
    </tr>
    <tr>
      <td>lactate dehydrogenase (LDH)</td>
      <td>February 26, 2004</td>
      <td>400 u/L</td>
      <td>200-650 u/L</td>
      <td>No</td>
    </tr>
  </tbody>
</table>
<text>
  <entry typeCode="COMP">
    <entryChoice>
      <Observation moodCode="EVN">
        <code code="Tnl" codeSystemName="Lab Observation Table" displayName="troponin I"/>
        <effectiveTime value="20040226"/>
        <value>0.5 ng/mL</value>
        <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>
        <referenceRange>
          <referenceObservationRange>
            <value>less than 0.5 ng/mL</value>
          </referenceObservationRange>
          <referenceRange>
            <performer>

```

```
<assignedEntity>  
  <id displayable="true" root="476CAE01-D4E8-4894-A007-EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND"/>  
  DIVISION - SCS"/>  
  
  </assignedEntity>  
  <performer>  
    <Observation>  
      <entryChoice>  
        <entry typeCode="COMP">  
          <entryChoice>  
            <Observation moodCode="EVN">  
              <code code="CPK" codeSystemName="Lab Observation Table" displayName="creatine phosphokinase"/>  
              <effectiveTime value="20040226"/>  
              <value>180 u/L</value>  
              <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>  
              <referenceRange>  
                <referenceObservationRange>  
                  <value>5-200 u/L</value>  
                </referenceObservationRange>  
              </referenceRange>  
            </entryChoice>  
          </entry>  
        </entryChoice>  
      </Observation>  
    </performer>  
  </assignedEntity>  
  <id displayable="true" root="476CAE01-D4E8-4894-A007-EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND"/>  
  DIVISION - SCS"/>  
  
  </assignedEntity>  
  <performer>  
    <Observation>  
      <entryChoice>  
        <entry typeCode="COMP">  
          <entryChoice>  
            <Observation moodCode="EVN">  
              <code code="LDH" codeSystemName="Lab Observation Table" displayName="lactate dehydrogenase"/>  
              <effectiveTime value="20040226"/>  
              <value>400 u/L</value>  
              <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>  
              <referenceRange>  
                <referenceObservationRange>  
                  <value>200-650 u/L</value>  
                </referenceObservationRange>  
              </referenceRange>  
            </entryChoice>  
          </entry>  
        </entryChoice>  
      </Observation>  
    </performer>  
  </assignedEntity>  
  <id displayable="true" root="476CAE01-D4E8-4894-A007-EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND"/>  
  DIVISION - SCS"/>
```

<div>&lt;/performer&gt; &lt;/Observation&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</div>	
Schema Links	
<div>Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Performer AssignedEntity Observation ReferenceRange ObservationRange</div>	

## 5.14 Past Referrals and/or Hospitalizations

Section Level: O2 O3

Cardinality: 0..\*

LOINC Document Section Code: 11336-5

### 5.14.1 Description

The past referrals and/or hospitalizations information provides details on past referrals or hospitalizations that may have an affect on the treatment of the patient. The past referrals and/or hospitalizations document section is optional at level 2 and optional at level 3 (O2 O3). The cardinality for this section is 0..\*. The LOINC document section code for history of hospitalizations is 11336-5.

### 5.14.2 Data Elements

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.14.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Referral_Section_Code	Code identifying the Past Referrals and/or Hospitalizations section. The value in this field should always be the LOINC code given.	EMS: CE.Ful I	LOINC: 11336-5	M: 1..1	
5.14.2.2	Component.Section.Title		Referral_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.14.2.3	Component.Section.Text		Referral_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.14.2.4	Component.Section.Entry.EntryChoice.Performer.AssignedEntity.ID	extension	Referral_Location	Location where the referral took place (e.g. name of a hospital).	II		O: 0..1	
5.14.2.5	Component.Section.Entry.EntryChoice.Encounter.Code	code codeSystem codeSystemName displayName	Referral_Type	The type of referral that was made	CE	HL7: ActEncounterCode	O: 0..1	
5.14.2.6	Component.Section.Entry.EntryChoice.Encounter.Text		Referral_Reason	The reason for the past referral or hospitalization.	ED		O: 0..1	
5.14.2.7	Component.Section.Entry.EntryChoice.Encounter.EffectiveTime	value	Referral_Date	The date of the past referral or hospitalization.	IVL_TS		O: 0..1	This may be a partial date.
5.14.2.8	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every		Voc.xsd: Participation		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.14.2.9 Component.Section.Entry.EntryChoice.Encounter	moodCode		ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.  Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		InformationGenerator_X  Vocabulary_ActMoodDocumentObservation_X		

### 5.14.3 Example

Human Readable			
<b><u>Past Referrals / Hospitalizations</u></b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)			
Location / Person	Type	Reason	Date
Good Health Hospital	Specialist	Pneumonia	1996

```
<component>
  <section>
    <code code="11336-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Past Referrals and Hospitalizations"/>
    <title>Past Referrals and Hospitalizations</title>
    <text>
      <table border="1">
        <tbody>
          <tr>
            <th>Location / Person</th>
            <th>Type</th>
            <th>Reason</th>
            <th>Date</th>
          </tr>
          <tr>
            <td>Good Health Hospital</td>
            <td>Specialist</td>
            <td>Pneumonia</td>
            <td>1996</td>
          </tr>
        </tbody>
      </table>
    <text>
      <entry typeCode="COMP">
        <entryChoice>
```

<pre>&lt;Encounter moodCode="EVN"&gt;   &lt;id extension="Good Health Hospital"/&gt;   &lt;code code="SP" codeSystem="4FE1CC50-FBDC-44a6-A005-A49E9F7A6DA9" codeSystemName="HL7 - Act Encounter Code" displayName="Specialist"/&gt;   &lt;text&gt;Pneumonia.&lt;/text&gt;   &lt;effectiveTime value="1996"/&gt; &lt;/Encounter&gt; &lt;/entryChoice&gt; &lt;/entry&gt; &lt;/section&gt; &lt;/component&gt;</pre>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section Entry2 EntryChoice Encounter Performer AssignedEntity	

## 5.15 Family History

Section Level: O2 X3

Cardinality: 0..\*

LOINC Document Section Code: 10157-6

### 5.15.1 Description

The family history information provides details on conditions that family members have or have had in the past that may affect on the treatment of the patient. The family history document section is optional at level 2 and not supported at level 3 (O2 X3). Since this section is not supported at level 3, suggestions for what could be entered into the level 2 text field are: condition description, family relationship type, age of onset of the condition, age and cause of death of the family member. The cardinality for this section is 0..\*. The LOINC document section code for family history is 10157-6.

### 5.15.2 Data Elements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.15.2.1 Section.Code		Fam_Hist_Section_ Code	Code identifying the Family History section. The value in this field should always be the LOINC code given.	EMS. CE:Full	LOINC: 10157-6	M: 1..1	
5.15.2.2 Section.Title		Fam_Hist_Section_ Title	Human readable title of the section.	ST		M: 1..1	
5.15.2.3 Section.Text		Fam_Hist_Section_ Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	

### 5.15.3 Example

Human Readable	XML Instance
<b>Family History</b> (Note: although it is outside the scope of the CDA, it is required that the vendor make the title element bold and underlined.)  The patient's father died of a myocardial infarction at the age of 65.	<pre>&lt;component&gt; &lt;section&gt; &lt;code code="10157-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Family History"/&gt; &lt;title&gt;Family History&lt;/title&gt; &lt;text&gt;The patient's father died of a myocardial infarction at the age of 65.&lt;/text&gt; &lt;/section&gt;</pre>



</component>	Schema Links
Component2 BodyChoice StructuredBody Component6 Section	

## 5.16 Observation Media

Section Level: X2 R3  
Cardinality: 0..\*

### 5.16.1 Description

Observation Media (attachments) is not an individual section in the CDA document. The attachment document section is required at level 3 (X2 R3) and forms part of another section through an EntryRelationship. Observation Media includes any document that is relevant to the care of the patient (e.g. lab results, x-ray images, etc). Attachments must be from a list of valid MIME types. The cardinality for this section is 0..\*. An attachment may be embedded within the CDA document in the appropriate place or may be external to the CDA document but within the message wrapper. In either case a reference to the attachment is contained in the CDA document.

### 5.16.2 Data Elements

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.16.2.1	EntryRelationship	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way				
5.16.2.2	EntryRelationship.EntryChoice. ObservationMedia.Value	mediaType		Type of attachment	ED			
5.16.2.3	EntryRelationship.EntryChoice. ObservationMedia.Value.Reference	value		Reference to the file attachment.	URL		R: 0..*	

### 5.16.3 Example

Human Readable
N/A
XML Instance
<pre>&lt;entryRelationship typeCode="COMP"&gt;   &lt;entryChoice&gt;     &lt;ObservationMedia&gt;       &lt;value mediaType="image/jpeg"&gt;         &lt;reference value="test.jpg"/&gt;       &lt;/value&gt;     &lt;/ObservationMedia&gt;   &lt;/entryChoice&gt; &lt;/entryRelationship&gt;</pre>

<a href="#">&lt;/ObservationMedia&gt;</a> <a href="#">&lt;/entryChoice&gt;</a> <a href="#">&lt;/entryRelationship&gt;</a>
<b>Schema Links</b>
<a href="#">Component2</a> <a href="#">BodyChoice</a> <a href="#">StructuredBody</a> <a href="#">Component6</a> <a href="#">Section</a> <a href="#">Entry2</a> <a href="#">EntryChoice</a> <a href="#">ObservationMedia</a>

## Appendix A – Human Readable Referral Example

## Referral Letter

**Author:**

Dr. Harold H. Hippocrates the 1<sup>st</sup>  
Level 7 Healthcare, Inc  
4444 Healthcare Drive  
Ann Arbor, BC  
A1B 2C3  
Canada  
Phone: (555) 555-1003  
Fax: (555) 555-1133

**Information Recipient:**

Dr. Patrick P. Pump Sr.  
Level 7 Healthcare, Inc  
4444 Healthcare Drive  
Ann Arbor, BC  
A1B 2C3  
Canada  
Phone: (555) 555-1009  
Fax: (555) 555-1199

**Client Information**

Name:	Mrs. Eve E. Everywoman Jr.
DOB:	May 16, 1965
Gender:	Female
Age:	39

**Purpose**

Please see this patient regarding occasional occurrences of arrhythmia at rest accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain.

**Urgency:** expedite.

**Comments:** The patient expressed that this problem has gradually been getting worse over the course of the past year and a half.

**Providers currently involved in the care of the patient:**

Other Provider	Reason
Dr. Vera V. Valve at Level 7 Healthcare, Inc	High blood pressure in the past
Dr. Sara S. Specialize at Good Health Hospital	24 Hour ECG recording

**Medical History**

Problem	Comments	Date
Meningitis	No permanent effects.	1975
Closed fractured rib	Patient is unsure of which rib it was.	1994

**Surgical History**

Description	Date
Appendectomy	June 1970
Cholelithotomy	January 17, 2004

**Social History / Risks**

Social History/Risk	Comments	Date
Smoking	2 packs of cigarettes per day in her early teens	1979-1982

Alcohol consumption	3 glasses of wine per day	January 2000
---------------------	---------------------------	--------------

### **Family History**

The patient's father died of a myocardial infarction at the age of 65.

### **Past Referrals / Hospitalizations**

Location	Type	Reason	Date
Good Health Hospital	Specialist	Pneumonia	1996

### **Other Treatments**

Other Treatment	Outcome	Date
Herbal remedy	The patient did not experience any improvement in her condition	November 2003-February 2004

### **Allergies**

Allergy Type	Severity	Comments (Allergen, reaction)	Date
Drug Allergy	Mild	Penicillin. Resulting in hives. Patient hasn't been tested recently to see if this is still an active allergy	1965
Food Allergy	Moderate	Dairy. Resulting in puffy eyes	1970-1985

### **Alerts**

Alert	Comments	Date
History of violence	Mostly towards family members	1999
History of mental illness	Mild anxiety disorder	August 2000

### **Active Problem List**

Active Problem	Description	Date
Hypertension	Continuing to increase in severity.	December 2002

### **Current Medications**

Medication Name	DIN	DIN Name	Dose	Admin Route	Frequency	Repeats	Effective Date
Accupril 5 mg	01947664	Quinapril	10 mg	Orally	2 per day	2	Jan 15, 2003

### **Labs**

Type	Collection Date	Result/ Unit	Normal Result Range	Abnormal?
troponin I (Tnl)	February 26, 2004	0.5 ng/mL	< 0.5 ng/mL	No
creatinine phosphokinase (CPK)	February 26, 2004	180 u/L	5-200 u/L	No
lactate dehydrogenase (LDH)	February 26, 2004	400 u/L	200-650 u/L	No

### **Medical Imaging History**

Procedure	Results	Date
Chest x-ray	Nothing unusual could be observed. X-ray image is attached.	July 14, 2004

### **Examination Measurements**

	Height	Weight	Blood Pressure	Pulse
January 13, 2000	172 cm	65 kg	130/80	80 BPM
March 18, 2001	172 cm	70 Kg	145/95	90 BPM
September 22, 2003	172 cm	78 Kg	160/110	92 BPM
August 9, 2004	172 cm	80 Kg	160/130	94 BPM

### **Immunizations**

Immunization	Date
Hepatitis A	September 24, 2000
Hepatitis A	January 27, 2002
Inactivated Polio Vaccine (study)	March 13, 1985
Measles Mumps Rubella	April 30, 1995

### **Patient Information**

Name:	Mrs. Eve E. Everywoman Jr.
DOB:	May 16, 1965
Age:	39
Gender:	Female
Language:	English
Identifiers:	BC-PHN: 9999999999 WCB: 99999-9
Address:	2222 Home Street Ann Arbor, BC A1B 2C3 Canada
Phone:	(555) 555-2003
Email:	Eve.Everywoman@eg.net

### **Patient Contact Information**

#### **Contact 1**

Name: Mr. Neville N. Nuclear III  
Relationship: Husband  
Address: 2222 Home Street  
Ann Arbor, BC  
A1B 2C3  
Canada  
Phone: (555) 555-5001  
Email: Neville.Nuclear@eg.net

#### **Contact 2**

Name: Ms. Nancy N. Nuclear Sr.  
Relationship: Daughter  
Address: 6666 Home Street.  
Ann Arbor, BC  
A1B 2C3  
Canada  
Phone: (250) 555-5001  
Email: Nancy.Nuclear@eg.net

### **Attachments**

Chest x-ray

## Appendix B – Schema

### e-MS Schema (EMS\_CDA\_v8.xsd)

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!-- e-MS Clinical Document Architecture schema - version 8 -->
<xs:schema targetNamespace="urn:hl7-org:v3" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="urn:hl7-
org:v3" xmlns:hl7="urn:hl7-org:v3" elementFormDefault="qualified">
  <xs:include schemaLocation="dt/datatypes.xsd"/>
  <xs:include schemaLocation="dt/EMS_datatypes.xsd"/>
  <xs:include schemaLocation="voc/voc.xsd"/>
  <xs:include schemaLocation="narrative/CDANarrativeBlock.CommitteeBallot03.Aug.2004.xsd"/>
  <xs:element name="ClinicalDocument" type="EMS_MT.ClinicalDocument"/>
  <xs:complexType name="EMS_MT.ClinicalDocument">
    <xs:sequence>
      <xs:element name="id" type="EMS.II.RootExtension"/>
      <xs:element name="code" type="EMS.CE.Full"/>
      <xs:element name="title" type="ST"/>
      <xs:element name="effectiveTime" type="hl7:EMS.TS"/>
      <xs:element name="recordTarget" type="EMS_MT.RecordTarget"/>
      <xs:element name="author" type="EMS_MT.Author" minOccurs="2" maxOccurs="2"/>
      <xs:element name="custodian" type="EMS_MT.Custodian"/>
      <xs:element name="informationRecipient" type="EMS_MT.InformationRecipient"/>
      <xs:element name="participant" type="EMS_MT.Participant" minOccurs="0"
maxOccurs="unbounded"/>
      <xs:element name="component" type="EMS_MT.Component2"/>
      <xs:element name="relatedDocument" type="EMS_MT.RelatedDocument2" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
    <xs:attribute name="type" type="Classes" default="Document"/>
    <xs:attribute name="classCode" type="ActClass" default="DOCCLIN"/>
    <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
    <xs:attribute name="templateId" use="optional">
      <xs:simpleType>
        <xs:list itemType="oid"/>
      </xs:simpleType>
    </xs:attribute>
    <xs:attribute name="typeId" use="optional">
      <xs:simpleType>
        <xs:list itemType="oid"/>
      </xs:simpleType>
    </xs:attribute>
    <xs:attribute name="realmCode" use="optional">
      <xs:simpleType>
        <xs:list itemType="cs"/>
      </xs:simpleType>
    </xs:attribute>
    <xs:attribute name="nullFlavor" type="cs" use="optional"/>
  </xs:complexType>
  <xs:complexType name="EMS_MT.RecordTarget">
    <xs:sequence>
      <xs:element name="patientRole" type="EMS_MT.PatientRole"/>
    </xs:sequence>
    <xs:attribute name="type" type="Classes" default="Participation"/>
    <xs:attribute name="typeCode" type="ParticipationType" default="RCT"/>
    <xs:attribute name="contextControlCode" type="ContextControl" default="OP"/>
    <xs:attribute name="templateId" use="optional">
      <xs:simpleType>
        <xs:list itemType="oid"/>
      </xs:simpleType>
    </xs:attribute>
  </xs:complexType>

```



```
60      <xs:attribute name="typeID" use="optional">
61        <xs:simpleType>
62          <xs:list itemType="oid"/>
63        </xs:simpleType>
64      </xs:attribute>
65      <xs:attribute name="realmCode" use="optional">
66        <xs:simpleType>
67          <xs:list itemType="cs"/>
68        </xs:simpleType>
69      </xs:attribute>
70      <xs:attribute name="nullFlavor" type="cs" use="optional"/>
71    </xs:complexType>
72    <xs:complexType name="EMS_MT.PatientRole">
73      <xs:sequence>
74        <xs:element name="id" type="EMS.II.RootExtensionAuthority" maxOccurs="unbounded"/>
75        <xs:element name="addr" type="AD" minOccurs="0"/>
76        <xs:element name="telecom" type="EMS.TEL" minOccurs="0" maxOccurs="unbounded"/>
77        <xs:element name="patientPatient" type="EMS_MT.Patient"/>
78      </xs:sequence>
79      <xs:attribute name="type" type="Classes" default="Patient"/>
80      <xs:attribute name="classCode" type="RoleClass" default="PAT"/>
81      <xs:attribute name="templateId" use="optional">
82        <xs:simpleType>
83          <xs:list itemType="oid"/>
84        </xs:simpleType>
85      </xs:attribute>
86      <xs:attribute name="typeID" use="optional">
87        <xs:simpleType>
88          <xs:list itemType="oid"/>
89        </xs:simpleType>
90      </xs:attribute>
91      <xs:attribute name="realmCode" use="optional">
92        <xs:simpleType>
93          <xs:list itemType="cs"/>
94        </xs:simpleType>
95      </xs:attribute>
96      <xs:attribute name="nullFlavor" type="cs" use="optional"/>
97    </xs:complexType>
98    <xs:complexType name="EMS_MT.Patient">
99      <xs:sequence>
100      <xs:element name="name" type="PN"/>
101      <xs:element name="administrativeGenderCode" type="CE"/>
102      <xs:element name="birthTime" type="TS"/>
103      <xs:element name="languageCommunication" type="EMS_MT.LanguageCommunication"
104      minOccurs="0"/>
105    </xs:sequence>
106    <xs:attribute name="type" type="Classes" default="Person"/>
107    <xs:attribute name="classCode" type="EntityClass" default="PSN"/>
108    <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
109    <xs:attribute name="templateId" use="optional">
110      <xs:simpleType>
111        <xs:list itemType="oid"/>
112      </xs:simpleType>
113    </xs:attribute>
114    <xs:attribute name="typeID" use="optional">
115      <xs:simpleType>
116        <xs:list itemType="oid"/>
117      </xs:simpleType>
118    </xs:attribute>
119    <xs:attribute name="realmCode" use="optional">
120      <xs:simpleType>
121        <xs:list itemType="cs"/>
122      </xs:simpleType>
123    </xs:attribute>
124    <xs:attribute name="nullFlavor" type="cs" use="optional"/>
125  </xs:complexType>
```

```
126 <xs:complexType name="EMS_MT.LanguageCommunication">
127   <xs:sequence>
128     <xs:element name="languageCode" type="CS"/>
129   </xs:sequence>
130   <xs:attribute name="type" type="Classes" default="LanguageCommunication"/>
131   <xs:attribute name="templateId" use="optional">
132     <xs:simpleType>
133       <xs:list itemType="oid"/>
134     </xs:simpleType>
135   </xs:attribute>
136   <xs:attribute name="typeID" use="optional">
137     <xs:simpleType>
138       <xs:list itemType="oid"/>
139     </xs:simpleType>
140   </xs:attribute>
141   <xs:attribute name="realmCode" use="optional">
142     <xs:simpleType>
143       <xs:list itemType="cs"/>
144     </xs:simpleType>
145   </xs:attribute>
146   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
147 </xs:complexType>
148 <xs:complexType name="EMS_MT.Author">
149   <xs:sequence>
150     <xs:element name="time" type="hl7:EMS.TS"/>
151     <xs:element name="assignedAuthor" type="EMS_MT.AssignedAuthor"/>
152   </xs:sequence>
153   <xs:attribute name="type" type="Classes" default="Participation"/>
154   <xs:attribute name="typeCode" type="ParticipationType" default="AUT"/>
155   <xs:attribute name="contextControlCode" type="ContextControl" default="OP"/>
156   <xs:attribute name="templateId" use="optional">
157     <xs:simpleType>
158       <xs:list itemType="oid"/>
159     </xs:simpleType>
160   </xs:attribute>
161   <xs:attribute name="typeID" use="optional">
162     <xs:simpleType>
163       <xs:list itemType="oid"/>
164     </xs:simpleType>
165   </xs:attribute>
166   <xs:attribute name="realmCode" use="optional">
167     <xs:simpleType>
168       <xs:list itemType="cs"/>
169     </xs:simpleType>
170   </xs:attribute>
171   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
172 </xs:complexType>
173 <xs:complexType name="EMS_MT.AssignedAuthor">
174   <xs:sequence>
175     <xs:element name="id" type="hl7:EMS.II.RootExtension"/>
176     <xs:element name="addr" type="AD" minOccurs="0"/>
177     <xs:element name="telecom" type="hl7:EMS.TEL" minOccurs="0" maxOccurs="unbounded"/>
178     <xs:element name="assignedAuthorChoice" type="EMS_MT.AuthorChoice" minOccurs="0"/>
179   </xs:sequence>
180   <xs:attribute name="type" type="Classes" default="RoleHeir"/>
181   <xs:attribute name="classCode" type="RoleClass" default="ASSIGNED"/>
182   <xs:attribute name="templateId" use="optional">
183     <xs:simpleType>
184       <xs:list itemType="oid"/>
185     </xs:simpleType>
186   </xs:attribute>
187   <xs:attribute name="typeID" use="optional">
188     <xs:simpleType>
189       <xs:list itemType="oid"/>
190     </xs:simpleType>
191   </xs:attribute>
```

```
192     <xs:attribute name="realmCode" use="optional">
193       <xs:simpleType>
194         <xs:list itemType="cs"/>
195       </xs:simpleType>
196     </xs:attribute>
197     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
198   </xs:complexType>
199   <xs:complexType name="EMS_MT.Person">
200     <xs:sequence>
201       <xs:element name="name" type="PN"/>
202     </xs:sequence>
203     <xs:attribute name="type" type="Classes" default="Person"/>
204     <xs:attribute name="classCode" type="EntityClass" default="PSN"/>
205     <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
206     <xs:attribute name="templateId" use="optional">
207       <xs:simpleType>
208         <xs:list itemType="oid"/>
209       </xs:simpleType>
210     </xs:attribute>
211     <xs:attribute name="typeID" use="optional">
212       <xs:simpleType>
213         <xs:list itemType="oid"/>
214       </xs:simpleType>
215     </xs:attribute>
216     <xs:attribute name="realmCode" use="optional">
217       <xs:simpleType>
218         <xs:list itemType="cs"/>
219       </xs:simpleType>
220     </xs:attribute>
221     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
222   </xs:complexType>
223   <xs:complexType name="EMS_MT.AuthoringDevice">
224     <xs:sequence>
225       <xs:element name="softwareName" type="SC"/>
226     </xs:sequence>
227     <xs:attribute name="type" type="Classes" default="Device"/>
228     <xs:attribute name="classCode" type="EntityClass" default="DEV"/>
229     <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
230     <xs:attribute name="templateId" use="optional">
231       <xs:simpleType>
232         <xs:list itemType="oid"/>
233       </xs:simpleType>
234     </xs:attribute>
235     <xs:attribute name="typeID" use="optional">
236       <xs:simpleType>
237         <xs:list itemType="oid"/>
238       </xs:simpleType>
239     </xs:attribute>
240     <xs:attribute name="realmCode" use="optional">
241       <xs:simpleType>
242         <xs:list itemType="cs"/>
243       </xs:simpleType>
244     </xs:attribute>
245     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
246   </xs:complexType>
247   <xs:complexType name="EMS_MT.Custodian">
248     <xs:sequence>
249       <xs:element name="assignedCustodian" type="EMS_MT.AssignedCustodian"/>
250     </xs:sequence>
251     <xs:attribute name="type" type="Classes" default="Participation"/>
252     <xs:attribute name="typeCode" type="ParticipationType" default="CST"/>
253     <xs:attribute name="templateId" use="optional">
254       <xs:simpleType>
255         <xs:list itemType="oid"/>
256       </xs:simpleType>
257     </xs:attribute>
```

```
258     <xs:attribute name="typeID" use="optional">
259       <xs:simpleType>
260         <xs:list itemType="oid"/>
261       </xs:simpleType>
262     </xs:attribute>
263     <xs:attribute name="realmCode" use="optional">
264       <xs:simpleType>
265         <xs:list itemType="cs"/>
266       </xs:simpleType>
267     </xs:attribute>
268     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
269   </xs:complexType>
270   <xs:complexType name="EMS_MT.AssignedCustodian">
271     <xs:sequence>
272       <xs:element name="representedCustodianOrganization" type="EMS_MT.CustodianOrganization"/>
273     </xs:sequence>
274     <xs:attribute name="type" type="Classes" default="RoleHeir"/>
275     <xs:attribute name="classCode" type="RoleClass" default="ASSIGNED"/>
276     <xs:attribute name="templateId" use="optional">
277       <xs:simpleType>
278         <xs:list itemType="oid"/>
279       </xs:simpleType>
280     </xs:attribute>
281     <xs:attribute name="typeID" use="optional">
282       <xs:simpleType>
283         <xs:list itemType="oid"/>
284       </xs:simpleType>
285     </xs:attribute>
286     <xs:attribute name="realmCode" use="optional">
287       <xs:simpleType>
288         <xs:list itemType="cs"/>
289       </xs:simpleType>
290     </xs:attribute>
291     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
292   </xs:complexType>
293   <xs:complexType name="EMS_MT.CustodianOrganization">
294     <xs:sequence>
295       <xs:element name="id" type="hl7:EMS.II.RootExtension"/>
296       <xs:element name="name" type="ON" minOccurs="0"/>
297     </xs:sequence>
298     <xs:attribute name="type" type="Classes" default="Organization"/>
299     <xs:attribute name="classCode" type="EntityClass" default="ORG"/>
300     <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
301     <xs:attribute name="templateId" use="optional">
302       <xs:simpleType>
303         <xs:list itemType="oid"/>
304       </xs:simpleType>
305     </xs:attribute>
306     <xs:attribute name="typeID" use="optional">
307       <xs:simpleType>
308         <xs:list itemType="oid"/>
309       </xs:simpleType>
310     </xs:attribute>
311     <xs:attribute name="realmCode" use="optional">
312       <xs:simpleType>
313         <xs:list itemType="cs"/>
314       </xs:simpleType>
315     </xs:attribute>
316     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
317   </xs:complexType>
318   <xs:complexType name="EMS_MT.InformationRecipient">
319     <xs:sequence>
320       <xs:element name="intendedRecipient" type="EMS_MT.IntendedRecipient"/>
321     </xs:sequence>
322     <xs:attribute name="type" type="Classes" default="Participation"/>
323     <xs:attribute name="typeCode" type="x_InformationRecipient"/>
```

```
324     <xs:attribute name="templateId" use="optional">
325       <xs:simpleType>
326         <xs:list itemType="oid"/>
327       </xs:simpleType>
328     </xs:attribute>
329     <xs:attribute name="typeID" use="optional">
330       <xs:simpleType>
331         <xs:list itemType="oid"/>
332       </xs:simpleType>
333     </xs:attribute>
334     <xs:attribute name="realmCode" use="optional">
335       <xs:simpleType>
336         <xs:list itemType="cs"/>
337       </xs:simpleType>
338     </xs:attribute>
339     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
340   </xs:complexType>
341   <xs:complexType name="EMS_MT.IntendedRecipient">
342     <xs:sequence>
343       <xs:element name="id" type="EMS.II.RootExtension"/>
344       <xs:element name="addr" type="AD" minOccurs="0"/>
345       <xs:element name="telecom" type="EMS.TEL" minOccurs="0" maxOccurs="unbounded"/>
346       <xs:element name="informationRecipient" type="EMS_MT.RecipientChoice"/>
347       <xs:element name="receivedOrganization" type="EMS_MT.Organization" minOccurs="0"/>
348     </xs:sequence>
349     <xs:attribute name="type" type="Classes" default="RoleHeir"/>
350     <xs:attribute name="classCode" type="x_InformationRecipientRole" use="required"/>
351     <xs:attribute name="templateId" use="optional">
352       <xs:simpleType>
353         <xs:list itemType="oid"/>
354       </xs:simpleType>
355     </xs:attribute>
356     <xs:attribute name="typeID" use="optional">
357       <xs:simpleType>
358         <xs:list itemType="oid"/>
359       </xs:simpleType>
360     </xs:attribute>
361     <xs:attribute name="realmCode" use="optional">
362       <xs:simpleType>
363         <xs:list itemType="cs"/>
364       </xs:simpleType>
365     </xs:attribute>
366     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
367   </xs:complexType>
368   <xs:complexType name="EMS_MT.Organization">
369     <xs:sequence>
370       <xs:element name="name" type="ON" minOccurs="0"/>
371     </xs:sequence>
372     <xs:attribute name="type" type="Classes" default="Organization"/>
373     <xs:attribute name="classCode" type="EntityClass" default="ORG"/>
374     <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
375     <xs:attribute name="templateId" use="optional">
376       <xs:simpleType>
377         <xs:list itemType="oid"/>
378       </xs:simpleType>
379     </xs:attribute>
380     <xs:attribute name="typeID" use="optional">
381       <xs:simpleType>
382         <xs:list itemType="oid"/>
383       </xs:simpleType>
384     </xs:attribute>
385     <xs:attribute name="realmCode" use="optional">
386       <xs:simpleType>
387         <xs:list itemType="cs"/>
388       </xs:simpleType>
389     </xs:attribute>
```

```
390     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
391 </xs:complexType>
392 <xs:complexType name="EMS_MT.Participant">
393   <xs:sequence>
394     <xs:element name="participatingEntity" type="EMS_MT.ParticipatingEntity"/>
395   </xs:sequence>
396   <xs:attribute name="type" type="Classes" default="Participation"/>
397   <xs:attribute name="typeCode" type="ParticipationType" use="required"/>
398   <xs:attribute name="contextControlCode" type="ContextControl" default="OP"/>
399   <xs:attribute name="templateId" use="optional">
400     <xs:simpleType>
401       <xs:list itemType="oid"/>
402     </xs:simpleType>
403   </xs:attribute>
404   <xs:attribute name="typeID" use="optional">
405     <xs:simpleType>
406       <xs:list itemType="oid"/>
407     </xs:simpleType>
408   </xs:attribute>
409   <xs:attribute name="realmCode" use="optional">
410     <xs:simpleType>
411       <xs:list itemType="cs"/>
412     </xs:simpleType>
413   </xs:attribute>
414   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
415 </xs:complexType>
416 <xs:complexType name="EMS_MT.ParticipatingEntity">
417   <xs:sequence>
418     <xs:element name="code" type="EMS.CE.Full" minOccurs="0"/>
419     <xs:element name="addr" type="AD" minOccurs="0"/>
420     <xs:element name="telecom" type="EMS.TEL" minOccurs="0" maxOccurs="unbounded"/>
421     <xs:element name="associatedPerson" type="EMS_MT.Person" minOccurs="0"/>
422   </xs:sequence>
423   <xs:attribute name="type" type="Classes" default="RoleHeir"/>
424   <xs:attribute name="classCode" type="RoleClassAssociative" use="required"/>
425   <xs:attribute name="templateId" use="optional">
426     <xs:simpleType>
427       <xs:list itemType="oid"/>
428     </xs:simpleType>
429   </xs:attribute>
430   <xs:attribute name="typeID" use="optional">
431     <xs:simpleType>
432       <xs:list itemType="oid"/>
433     </xs:simpleType>
434   </xs:attribute>
435   <xs:attribute name="realmCode" use="optional">
436     <xs:simpleType>
437       <xs:list itemType="cs"/>
438     </xs:simpleType>
439   </xs:attribute>
440   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
441 </xs:complexType>
442 <xs:complexType name="EMS_MT.Component2">
443   <xs:sequence>
444     <xs:element name="bodyChoice" type="EMS_MT.bodyChoice"/>
445   </xs:sequence>
446   <xs:attribute name="type" type="Classes" default="ActRelationship"/>
447   <xs:attribute name="typeCode" type="ActRelationshipType" default="COMP"/>
448   <xs:attribute name="contextConductionInd" type="bl" default="true"/>
449   <xs:attribute name="templateId" use="optional">
450     <xs:simpleType>
451       <xs:list itemType="oid"/>
452     </xs:simpleType>
453   </xs:attribute>
454   <xs:attribute name="typeID" use="optional">
455     <xs:simpleType>
```



```
456         <xs:list itemType="oid"/>
457     </xs:simpleType>
458 </xs:attribute>
459 <xs:attribute name="realmCode" use="optional">
460     <xs:simpleType>
461         <xs:list itemType="cs"/>
462     </xs:simpleType>
463 </xs:attribute>
464 <xs:attribute name="nullFlavor" type="cs" use="optional"/>
465 </xs:complexType>
466 <xs:complexType name="EMS_MT.NonXMLBody">
467     <xs:attribute name="type" type="Classes" default="ActHeir"/>
468     <xs:attribute name="classCode" type="ActClass" default="DOCBODY"/>
469     <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
470     <xs:attribute name="templateId" use="optional">
471         <xs:simpleType>
472             <xs:list itemType="oid"/>
473         </xs:simpleType>
474     </xs:attribute>
475     <xs:attribute name="typeID" use="optional">
476         <xs:simpleType>
477             <xs:list itemType="oid"/>
478         </xs:simpleType>
479     </xs:attribute>
480     <xs:attribute name="realmCode" use="optional">
481         <xs:simpleType>
482             <xs:list itemType="cs"/>
483         </xs:simpleType>
484     </xs:attribute>
485     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
486 </xs:complexType>
487 <xs:complexType name="EMS_MT.StructuredBody">
488     <xs:sequence>
489         <xs:element name="component" type="EMS_MT.Component6" maxOccurs="unbounded"/>
490     </xs:sequence>
491     <xs:attribute name="type" type="Classes" default="ActHeir"/>
492     <xs:attribute name="classCode" type="ActClass" default="DOCBODY"/>
493     <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
494     <xs:attribute name="templateId" use="optional">
495         <xs:simpleType>
496             <xs:list itemType="oid"/>
497         </xs:simpleType>
498     </xs:attribute>
499     <xs:attribute name="typeID" use="optional">
500         <xs:simpleType>
501             <xs:list itemType="oid"/>
502         </xs:simpleType>
503     </xs:attribute>
504     <xs:attribute name="realmCode" use="optional">
505         <xs:simpleType>
506             <xs:list itemType="cs"/>
507         </xs:simpleType>
508     </xs:attribute>
509     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
510 </xs:complexType>
511 <xs:complexType name="EMS_MT.Component6">
512     <xs:sequence>
513         <xs:element name="section" type="EMS_MT.Section"/>
514     </xs:sequence>
515     <xs:attribute name="type" type="Classes" default="ActRelationship"/>
516     <xs:attribute name="typeCode" type="ActRelationshipType" default="COMP"/>
517     <xs:attribute name="contextConductionInd" type="bl" default="true"/>
518     <xs:attribute name="templateId" use="optional">
519         <xs:simpleType>
520             <xs:list itemType="oid"/>
521         </xs:simpleType>
```

```
522     </xs:attribute>
523     <xs:attribute name="typeID" use="optional">
524       <xs:simpleType>
525         <xs:list itemType="oid"/>
526       </xs:simpleType>
527     </xs:attribute>
528     <xs:attribute name="realmCode" use="optional">
529       <xs:simpleType>
530         <xs:list itemType="cs"/>
531       </xs:simpleType>
532     </xs:attribute>
533     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
534 </xs:complexType>
535 <xs:complexType name="EMS_MT.Section">
536   <xs:sequence>
537     <xs:element name="code" type="EMS.CE.Full"/>
538     <xs:element name="title" type="ST"/>
539     <xs:element name="text" type="text"/>
540     <xs:element name="entry" type="EMS_MT.Entry2" minOccurs="0" maxOccurs="unbounded"/>
541   </xs:sequence>
542   <xs:attribute name="type" type="Classes" default="ActHeir"/>
543   <xs:attribute name="classCode" type="ActClass" default="DOCSECT"/>
544   <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
545   <xs:attribute name="templateId" use="optional">
546     <xs:simpleType>
547       <xs:list itemType="oid"/>
548     </xs:simpleType>
549   </xs:attribute>
550   <xs:attribute name="typeID" use="optional">
551     <xs:simpleType>
552       <xs:list itemType="oid"/>
553     </xs:simpleType>
554   </xs:attribute>
555   <xs:attribute name="realmCode" use="optional">
556     <xs:simpleType>
557       <xs:list itemType="cs"/>
558     </xs:simpleType>
559   </xs:attribute>
560   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
561 </xs:complexType>
562 <xs:complexType name="EMS_MT.Entry2">
563   <xs:sequence>
564     <xs:element name="entryChoice" type="EMS_MT.entryChoice"/>
565   </xs:sequence>
566   <xs:attribute name="type" type="Classes" default="ActRelationship"/>
567   <xs:attribute name="typeCode" type="cs" use="required"/>
568   <xs:attribute name="contextConductionInd" type="bl" default="true"/>
569   <xs:attribute name="templateId" use="optional">
570     <xs:simpleType>
571       <xs:list itemType="oid"/>
572     </xs:simpleType>
573   </xs:attribute>
574   <xs:attribute name="typeID" use="optional">
575     <xs:simpleType>
576       <xs:list itemType="oid"/>
577     </xs:simpleType>
578   </xs:attribute>
579   <xs:attribute name="realmCode" use="optional">
580     <xs:simpleType>
581       <xs:list itemType="cs"/>
582     </xs:simpleType>
583   </xs:attribute>
584   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
585 </xs:complexType>
586 <xs:complexType name="EMS_MT.Performer">
587   <xs:sequence>
```



```
588     <xs:element name="assignedEntity" type="EMS_MT.AssignedEntity"/>
589   </xs:sequence>
590   <xs:attribute name="type" type="Classes" default="Participation"/>
591   <xs:attribute name="typeCode" type="ParticipationType" default="PRF"/>
592   <xs:attribute name="templateId" use="optional">
593     <xs:simpleType>
594       <xs:list itemType="oid"/>
595     </xs:simpleType>
596   </xs:attribute>
597   <xs:attribute name="typeID" use="optional">
598     <xs:simpleType>
599       <xs:list itemType="oid"/>
600     </xs:simpleType>
601   </xs:attribute>
602   <xs:attribute name="realmCode" use="optional">
603     <xs:simpleType>
604       <xs:list itemType="cs"/>
605     </xs:simpleType>
606   </xs:attribute>
607   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
608 </xs:complexType>
609 <xs:complexType name="EMS_MT.AssignedEntity">
610   <xs:sequence>
611     <xs:element name="id" type="II"/>
612   </xs:sequence>
613   <xs:attribute name="type" type="Classes" default="RoleHeir"/>
614   <xs:attribute name="classCode" type="RoleClass" default="ASSIGNED"/>
615   <xs:attribute name="templateId" use="optional">
616     <xs:simpleType>
617       <xs:list itemType="oid"/>
618     </xs:simpleType>
619   </xs:attribute>
620   <xs:attribute name="typeID" use="optional">
621     <xs:simpleType>
622       <xs:list itemType="oid"/>
623     </xs:simpleType>
624   </xs:attribute>
625   <xs:attribute name="realmCode" use="optional">
626     <xs:simpleType>
627       <xs:list itemType="cs"/>
628     </xs:simpleType>
629   </xs:attribute>
630   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
631 </xs:complexType>
632 <xs:complexType name="EMS_MT.Participant4">
633   <xs:sequence>
634     <xs:element name="participantRole" type="EMS_MT.ParticipantRole"/>
635   </xs:sequence>
636   <xs:attribute name="type" type="Classes" default="Participation"/>
637   <xs:attribute name="typeCode" type="ParticipationType" use="required"/>
638   <xs:attribute name="contextControlCode" type="ContextControl" default="OP"/>
639   <xs:attribute name="templateId" use="optional">
640     <xs:simpleType>
641       <xs:list itemType="oid"/>
642     </xs:simpleType>
643   </xs:attribute>
644   <xs:attribute name="typeID" use="optional">
645     <xs:simpleType>
646       <xs:list itemType="oid"/>
647     </xs:simpleType>
648   </xs:attribute>
649   <xs:attribute name="realmCode" use="optional">
650     <xs:simpleType>
651       <xs:list itemType="cs"/>
652     </xs:simpleType>
653   </xs:attribute>
```

```
654     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
655 </xs:complexType>
656 <xs:complexType name="EMS_MT.ParticipantRole">
657   <xs:sequence>
658     <xs:element name="playingEntityChoice" type="EMS_MT.EntityChoice" minOccurs="0"/>
659   </xs:sequence>
660   <xs:attribute name="type" type="Classes" default="RoleHeir"/>
661   <xs:attribute name="classCode" type="RoleClass" default="ROL"/>
662   <xs:attribute name="templateId" use="optional">
663     <xs:simpleType>
664       <xs:list itemType="oid"/>
665     </xs:simpleType>
666   </xs:attribute>
667   <xs:attribute name="typeID" use="optional">
668     <xs:simpleType>
669       <xs:list itemType="oid"/>
670     </xs:simpleType>
671   </xs:attribute>
672   <xs:attribute name="realmCode" use="optional">
673     <xs:simpleType>
674       <xs:list itemType="cs"/>
675     </xs:simpleType>
676   </xs:attribute>
677   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
678 </xs:complexType>
679 <xs:complexType name="EMS_MT.PlayingEntity">
680   <xs:sequence>
681     <xs:element name="name" type="EN" minOccurs="0"/>
682     <xs:element name="desc" type="ED" minOccurs="0"/>
683   </xs:sequence>
684   <xs:attribute name="type" type="Classes" default="EntityHeir"/>
685   <xs:attribute name="classCode" type="EntityClass" default="COMP"/>
686   <xs:attribute name="determinerCode" type="EntityDeterminer" default="INSTANCE"/>
687   <xs:attribute name="templateId" use="optional">
688     <xs:simpleType>
689       <xs:list itemType="oid"/>
690     </xs:simpleType>
691   </xs:attribute>
692   <xs:attribute name="typeID" use="optional">
693     <xs:simpleType>
694       <xs:list itemType="oid"/>
695     </xs:simpleType>
696   </xs:attribute>
697   <xs:attribute name="realmCode" use="optional">
698     <xs:simpleType>
699       <xs:list itemType="cs"/>
700     </xs:simpleType>
701   </xs:attribute>
702   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
703 </xs:complexType>
704 <xs:complexType name="EMS_MT.EntryRelationship">
705   <xs:sequence>
706     <xs:element name="entryChoice" type="EMS_MT.entryChoice"/>
707   </xs:sequence>
708   <xs:attribute name="type" type="Classes" default="ActRelationship"/>
709   <xs:attribute name="typeCode" type="cs" use="required"/>
710   <xs:attribute name="contextConductionInd" type="bl" default="true"/>
711   <xs:attribute name="templateId" use="optional">
712     <xs:simpleType>
713       <xs:list itemType="oid"/>
714     </xs:simpleType>
715   </xs:attribute>
716   <xs:attribute name="typeID" use="optional">
717     <xs:simpleType>
718       <xs:list itemType="oid"/>
719     </xs:simpleType>
```

```
720     </xs:attribute>
721     <xs:attribute name="realmCode" use="optional">
722       <xs:simpleType>
723         <xs:list itemType="cs"/>
724       </xs:simpleType>
725     </xs:attribute>
726     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
727   </xs:complexType>
728   <xs:complexType name="EMS_MT.Encounter">
729     <xs:sequence>
730       <xs:element name="id" type="II" minOccurs="0"/>
731       <xs:element name="code" type="CD" minOccurs="0"/>
732       <xs:element name="text" type="ED" minOccurs="0"/>
733       <xs:element name="effectiveTime" type="IVL_TS" minOccurs="0"/>
734       <xs:element name="entryRelationship" type="EMS_MT.EntryRelationship" minOccurs="0"
735 maxOccurs="unbounded"/>
736       <xs:element name="participant1" type="EMS_MT.Participant4" minOccurs="0"
737 maxOccurs="unbounded"/>
738       <xs:element name="performer" type="EMS_MT.Performer" minOccurs="0"
739 maxOccurs="unbounded"/>
740     </xs:sequence>
741     <xs:attribute name="type" type="Classes" default="PatientEncounter"/>
742     <xs:attribute name="classCode" type="ActClass" default="ENC"/>
743     <xs:attribute name="moodCode" type="cs" use="required"/>
744     <xs:attribute name="templateId" use="optional">
745       <xs:simpleType>
746         <xs:list itemType="oid"/>
747       </xs:simpleType>
748     </xs:attribute>
749     <xs:attribute name="typeID" use="optional">
750       <xs:simpleType>
751         <xs:list itemType="oid"/>
752       </xs:simpleType>
753     </xs:attribute>
754     <xs:attribute name="realmCode" use="optional">
755       <xs:simpleType>
756         <xs:list itemType="cs"/>
757       </xs:simpleType>
758     </xs:attribute>
759     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
760   </xs:complexType>
761   <xs:complexType name="EMS_MT.Observation">
762     <xs:sequence>
763       <xs:element name="code" type="CD"/>
764       <xs:element name="text" type="ED" minOccurs="0"/>
765       <xs:element name="effectiveTime" type="IVL_TS" minOccurs="0"/>
766       <xs:element name="priorityCode" type="CE" minOccurs="0"/>
767       <xs:element name="value" minOccurs="0">
768         <xs:complexType mixed="true">
769           <xs:complexContent mixed="true">
770             <xs:extension base="PQ"/>
771           </xs:complexContent>
772         </xs:complexType>
773       </xs:element>
774       <xs:element name="interpretationCode" type="CE" minOccurs="0"/>
775       <xs:element name="referenceRange" type="EMS_MT.ReferenceRange" minOccurs="0"
776 maxOccurs="unbounded"/>
777       <xs:element name="entryRelationship" type="EMS_MT.EntryRelationship" minOccurs="0"
778 maxOccurs="unbounded"/>
779       <xs:element name="participant1" type="EMS_MT.Participant4" minOccurs="0"
780 maxOccurs="unbounded"/>
781       <xs:element name="performer" type="EMS_MT.Performer" minOccurs="0"
782 maxOccurs="unbounded"/>
783     </xs:sequence>
784     <xs:attribute name="type" type="Classes" default="Observation"/>
785     <xs:attribute name="classCode" type="ActClass" default="OBS"/>
```

```
786 <xs:attribute name="moodCode" type="x_ActMoodDocumentObservation" use="required"/>
787 <xs:attribute name="templateId" use="optional">
788   <xs:simpleType>
789     <xs:list itemType="oid"/>
790   </xs:simpleType>
791 </xs:attribute>
792 <xs:attribute name="typeID" use="optional">
793   <xs:simpleType>
794     <xs:list itemType="oid"/>
795   </xs:simpleType>
796 </xs:attribute>
797 <xs:attribute name="realmCode" use="optional">
798   <xs:simpleType>
799     <xs:list itemType="cs"/>
800   </xs:simpleType>
801 </xs:attribute>
802 <xs:attribute name="nullFlavor" type="cs" use="optional"/>
803 </xs:complexType>
804 <xs:complexType name="EMS_MT.ReferenceRange">
805   <xs:sequence>
806     <xs:element name="referenceObservationRange" type="EMS_MT.ObservationRange"/>
807   </xs:sequence>
808   <xs:attribute name="type" type="Classes" default="ActRelationship"/>
809   <xs:attribute name="typeCode" type="ActRelationshipType" default="REFV"/>
810   <xs:attribute name="templateId" use="optional">
811     <xs:simpleType>
812       <xs:list itemType="oid"/>
813     </xs:simpleType>
814   </xs:attribute>
815   <xs:attribute name="typeID" use="optional">
816     <xs:simpleType>
817       <xs:list itemType="oid"/>
818     </xs:simpleType>
819   </xs:attribute>
820   <xs:attribute name="realmCode" use="optional">
821     <xs:simpleType>
822       <xs:list itemType="cs"/>
823     </xs:simpleType>
824   </xs:attribute>
825   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
826 </xs:complexType>
827 <xs:complexType name="EMS_MT.ObservationRange">
828   <xs:sequence>
829     <xs:element name="value" type="xs:anyType" minOccurs="0"/>
830   </xs:sequence>
831   <xs:attribute name="type" type="Classes" default="Observation"/>
832   <xs:attribute name="classCode" type="ActClass" default="OBS"/>
833   <xs:attribute name="moodCode" type="ActMood" default="EVN.CRT"/>
834   <xs:attribute name="templateId" use="optional">
835     <xs:simpleType>
836       <xs:list itemType="oid"/>
837     </xs:simpleType>
838   </xs:attribute>
839   <xs:attribute name="typeID" use="optional">
840     <xs:simpleType>
841       <xs:list itemType="oid"/>
842     </xs:simpleType>
843   </xs:attribute>
844   <xs:attribute name="realmCode" use="optional">
845     <xs:simpleType>
846       <xs:list itemType="cs"/>
847     </xs:simpleType>
848   </xs:attribute>
849   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
850 </xs:complexType>
851 <xs:complexType name="EMS_MT.ObservationMedia">
```

```
852     <xs:sequence>
853       <xs:element name="id" type="II" minOccurs="0"/>
854       <xs:element name="value" type="ED"/>
855       <xs:element name="entryRelationship" type="EMS_MT.EntryRelationship" minOccurs="0"
856 maxOccurs="unbounded"/>
857       <xs:element name="participant1" type="EMS_MT.Participant4" minOccurs="0"
858 maxOccurs="unbounded"/>
859       <xs:element name="performer" type="EMS_MT.Performer" minOccurs="0"
860 maxOccurs="unbounded"/>
861     </xs:sequence>
862     <xs:attribute name="type" type="Classes" default="Observation"/>
863     <xs:attribute name="classCode" type="ActClass" default="OBS"/>
864     <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
865     <xs:attribute name="templateId" use="optional">
866       <xs:simpleType>
867         <xs:list itemType="oid"/>
868       </xs:simpleType>
869     </xs:attribute>
870     <xs:attribute name="typeID" use="optional">
871       <xs:simpleType>
872         <xs:list itemType="oid"/>
873       </xs:simpleType>
874     </xs:attribute>
875     <xs:attribute name="realmCode" use="optional">
876       <xs:simpleType>
877         <xs:list itemType="cs"/>
878       </xs:simpleType>
879     </xs:attribute>
880     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
881   </xs:complexType>
882   <xs:complexType name="EMS_MT.Procedure">
883     <xs:sequence>
884       <xs:element name="text" type="ED" minOccurs="0"/>
885       <xs:element name="effectiveTime" type="IVL_TS" minOccurs="0"/>
886       <xs:element name="entryRelationship" type="EMS_MT.EntryRelationship" minOccurs="0"
887 maxOccurs="unbounded"/>
888       <xs:element name="participant1" type="EMS_MT.Participant4" minOccurs="0"
889 maxOccurs="unbounded"/>
890       <xs:element name="performer" type="EMS_MT.Performer" minOccurs="0"
891 maxOccurs="unbounded"/>
892     </xs:sequence>
893     <xs:attribute name="type" type="Classes" default="Procedure"/>
894     <xs:attribute name="classCode" type="ActClass" default="PROC"/>
895     <xs:attribute name="moodCode" type="cs" use="required"/>
896     <xs:attribute name="templateId" use="optional">
897       <xs:simpleType>
898         <xs:list itemType="oid"/>
899       </xs:simpleType>
900     </xs:attribute>
901     <xs:attribute name="typeID" use="optional">
902       <xs:simpleType>
903         <xs:list itemType="oid"/>
904       </xs:simpleType>
905     </xs:attribute>
906     <xs:attribute name="realmCode" use="optional">
907       <xs:simpleType>
908         <xs:list itemType="cs"/>
909       </xs:simpleType>
910     </xs:attribute>
911     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
912   </xs:complexType>
913   <xs:complexType name="EMS_MT.SubstanceAdministration">
914     <xs:sequence>
915       <xs:element name="effectiveTime" type="IVL_TS" minOccurs="0"/>
916       <xs:element name="repeatNumber" type="IVL_INT" minOccurs="0"/>
917       <xs:element name="routeCode" type="CE" minOccurs="0"/>
```

```
918         <xs:element name="doseQuantity" type="PQ" minOccurs="0"/>
919         <xs:element name="consumable" type="EMS_MT.Consumable"/>
920         <xs:element name="entryRelationship" type="EMS_MT.EntryRelationship" minOccurs="0"
maxOccurs="unbounded"/>
921         <xs:element name="participant1" type="EMS_MT.Participant4" minOccurs="0"
maxOccurs="unbounded"/>
922         <xs:element name="performer" type="EMS_MT.Performer" minOccurs="0"
maxOccurs="unbounded"/>
923     </xs:sequence>
924     <xs:attribute name="type" type="Classes" default="SubstanceAdministration"/>
925     <xs:attribute name="classCode" type="ActClass" default="SBADM"/>
926     <xs:attribute name="moodCode" type="cs" use="required"/>
927     <xs:attribute name="templateId" use="optional">
928         <xs:simpleType>
929             <xs:list itemType="oid"/>
930         </xs:simpleType>
931     </xs:attribute>
932     <xs:attribute name="typeID" use="optional">
933         <xs:simpleType>
934             <xs:list itemType="oid"/>
935         </xs:simpleType>
936     </xs:attribute>
937     <xs:attribute name="realmCode" use="optional">
938         <xs:simpleType>
939             <xs:list itemType="cs"/>
940         </xs:simpleType>
941     </xs:attribute>
942     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
943 </xs:complexType>
944 <xs:complexType name="EMS_MT.Consumable">
945     <xs:sequence>
946         <xs:element name="manufacturedProduct" type="EMS_MT.ManufacturedProduct"/>
947     </xs:sequence>
948     <xs:attribute name="type" type="Classes" default="Participation"/>
949     <xs:attribute name="typeCode" type="ParticipationType" default="CSM"/>
950     <xs:attribute name="templateId" use="optional">
951         <xs:simpleType>
952             <xs:list itemType="oid"/>
953         </xs:simpleType>
954     </xs:attribute>
955     <xs:attribute name="typeID" use="optional">
956         <xs:simpleType>
957             <xs:list itemType="oid"/>
958         </xs:simpleType>
959     </xs:attribute>
960     <xs:attribute name="realmCode" use="optional">
961         <xs:simpleType>
962             <xs:list itemType="cs"/>
963         </xs:simpleType>
964     </xs:attribute>
965     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
966 </xs:complexType>
967 <xs:complexType name="EMS_MT.ManufacturedProduct">
968     <xs:sequence>
969         <xs:element name="manufacturedDrugOrOtherMaterial" type="EMS_MT.DrugOrOtherMaterial"/>
970     </xs:sequence>
971     <xs:attribute name="type" type="Classes" default="RoleHeir"/>
972     <xs:attribute name="classCode" type="RoleClass" default="MANU"/>
973     <xs:attribute name="templateId" use="optional">
974         <xs:simpleType>
975             <xs:list itemType="oid"/>
976         </xs:simpleType>
977     </xs:attribute>
978     <xs:attribute name="typeID" use="optional">
979         <xs:simpleType>
980             <xs:list itemType="oid"/>
981         </xs:simpleType>
982     </xs:attribute>
```



```
984         </xs:simpleType>
985     </xs:attribute>
986     <xs:attribute name="realmCode" use="optional">
987         <xs:simpleType>
988             <xs:list itemType="cs"/>
989         </xs:simpleType>
990     </xs:attribute>
991     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
992 </xs:complexType>
993 <xs:complexType name="EMS_MT.LabeledDrug">
994     <xs:sequence>
995         <xs:element name="code" type="CE" minOccurs="0"/>
996         <xs:element name="name" type="EN" minOccurs="0"/>
997     </xs:sequence>
998     <xs:attribute name="type" type="Classes" default="ManufacturedMaterial"/>
999     <xs:attribute name="classCode" type="EntityClass" default="MMAT"/>
1000     <xs:attribute name="determinerCode" type="EntityDeterminer" default="KIND"/>
1001     <xs:attribute name="templateId" use="optional">
1002         <xs:simpleType>
1003             <xs:list itemType="oid"/>
1004         </xs:simpleType>
1005     </xs:attribute>
1006     <xs:attribute name="typeID" use="optional">
1007         <xs:simpleType>
1008             <xs:list itemType="oid"/>
1009         </xs:simpleType>
1010     </xs:attribute>
1011     <xs:attribute name="realmCode" use="optional">
1012         <xs:simpleType>
1013             <xs:list itemType="cs"/>
1014         </xs:simpleType>
1015     </xs:attribute>
1016     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1017 </xs:complexType>
1018 <xs:complexType name="EMS_MT.RelatedDocument2">
1019     <xs:sequence>
1020         <xs:element name="parentDocument" type="EMS_MT.ParentDocument"/>
1021     </xs:sequence>
1022     <xs:attribute name="type" type="Classes" default="ActRelationship"/>
1023     <xs:attribute name="typeCode" type="x_ActRelationshipDocument" use="required"/>
1024     <xs:attribute name="templateId" use="optional">
1025         <xs:simpleType>
1026             <xs:list itemType="oid"/>
1027         </xs:simpleType>
1028     </xs:attribute>
1029     <xs:attribute name="typeID" use="optional">
1030         <xs:simpleType>
1031             <xs:list itemType="oid"/>
1032         </xs:simpleType>
1033     </xs:attribute>
1034     <xs:attribute name="realmCode" use="optional">
1035         <xs:simpleType>
1036             <xs:list itemType="cs"/>
1037         </xs:simpleType>
1038     </xs:attribute>
1039     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1040 </xs:complexType>
1041 <xs:complexType name="EMS_MT.ParentDocument">
1042     <xs:sequence>
1043         <xs:element name="id" type="hl7:EMS.II.RootExtension"/>
1044         <xs:element name="code" type="hl7:EMS.CE.Full"/>
1045         <xs:element name="text" type="ED"/>
1046     </xs:sequence>
1047     <xs:attribute name="type" type="Classes" default="Document"/>
1048     <xs:attribute name="classCode" type="ActClass" default="DOCCLIN"/>
1049     <xs:attribute name="moodCode" type="ActMood" default="EVN"/>
```

```
1050     <xs:attribute name="templateId" use="optional">
1051       <xs:simpleType>
1052         <xs:list itemType="oid"/>
1053       </xs:simpleType>
1054     </xs:attribute>
1055     <xs:attribute name="typeID" use="optional">
1056       <xs:simpleType>
1057         <xs:list itemType="oid"/>
1058       </xs:simpleType>
1059     </xs:attribute>
1060     <xs:attribute name="realmCode" use="optional">
1061       <xs:simpleType>
1062         <xs:list itemType="cs"/>
1063       </xs:simpleType>
1064     </xs:attribute>
1065     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1066   </xs:complexType>
1067   <xs:complexType name="EMS_MT.AuthorChoice">
1068     <xs:choice>
1069       <xs:element name="assignedPerson" type="EMS_MT.Person" minOccurs="0"/>
1070       <xs:element name="assignedAuthoringDevice" type="EMS_MT.AuthoringDevice" minOccurs="0"/>
1071     </xs:choice>
1072     <xs:attribute name="type" type="Classes" default="Entity"/>
1073     <xs:attribute name="templateId" use="optional">
1074       <xs:simpleType>
1075         <xs:list itemType="oid"/>
1076       </xs:simpleType>
1077     </xs:attribute>
1078     <xs:attribute name="typeID" use="optional">
1079       <xs:simpleType>
1080         <xs:list itemType="oid"/>
1081       </xs:simpleType>
1082     </xs:attribute>
1083     <xs:attribute name="realmCode" use="optional">
1084       <xs:simpleType>
1085         <xs:list itemType="cs"/>
1086       </xs:simpleType>
1087     </xs:attribute>
1088     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1089     <xs:attribute name="stblId" type="oid" use="optional"/>
1090   </xs:complexType>
1091   <xs:complexType name="EMS_MT.RecipientChoice">
1092     <xs:choice>
1093       <xs:element name="informationRecipientPerson" type="EMS_MT.Person"/>
1094     </xs:choice>
1095     <xs:attribute name="type" type="Classes" default="Entity"/>
1096     <xs:attribute name="templateId" use="optional">
1097       <xs:simpleType>
1098         <xs:list itemType="oid"/>
1099       </xs:simpleType>
1100     </xs:attribute>
1101     <xs:attribute name="typeID" use="optional">
1102       <xs:simpleType>
1103         <xs:list itemType="oid"/>
1104       </xs:simpleType>
1105     </xs:attribute>
1106     <xs:attribute name="realmCode" use="optional">
1107       <xs:simpleType>
1108         <xs:list itemType="cs"/>
1109       </xs:simpleType>
1110     </xs:attribute>
1111     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1112   </xs:complexType>
1113   <xs:complexType name="EMS_MT.bodyChoice">
1114     <xs:choice>
1115       <xs:element name="StructuredBody" type="EMS_MT.StructuredBody"/>
```



```
1116     </xs:choice>
1117     <xs:attribute name="type" type="Classes" default="Act"/>
1118     <xs:attribute name="templateId" use="optional">
1119       <xs:simpleType>
1120         <xs:list itemType="oid"/>
1121       </xs:simpleType>
1122     </xs:attribute>
1123     <xs:attribute name="typeID" use="optional">
1124       <xs:simpleType>
1125         <xs:list itemType="oid"/>
1126       </xs:simpleType>
1127     </xs:attribute>
1128     <xs:attribute name="realmCode" use="optional">
1129       <xs:simpleType>
1130         <xs:list itemType="cs"/>
1131       </xs:simpleType>
1132     </xs:attribute>
1133     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1134   </xs:complexType>
1135   <xs:complexType name="EMS_MT.entryChoice">
1136     <xs:choice>
1137       <xs:element name="Encounter" type="EMS_MT.Encounter"/>
1138       <xs:element name="Observation" type="EMS_MT.Observation"/>
1139       <xs:element name="ObservationMedia" type="EMS_MT.ObservationMedia"/>
1140       <xs:element name="Procedure" type="EMS_MT.Procedure"/>
1141       <xs:element name="SubstanceAdministration" type="EMS_MT.SubstanceAdministration"/>
1142     </xs:choice>
1143     <xs:attribute name="type" type="Classes" default="Act"/>
1144     <xs:attribute name="templateId" use="optional">
1145       <xs:simpleType>
1146         <xs:list itemType="oid"/>
1147       </xs:simpleType>
1148     </xs:attribute>
1149     <xs:attribute name="typeID" use="optional">
1150       <xs:simpleType>
1151         <xs:list itemType="oid"/>
1152       </xs:simpleType>
1153     </xs:attribute>
1154     <xs:attribute name="realmCode" use="optional">
1155       <xs:simpleType>
1156         <xs:list itemType="cs"/>
1157       </xs:simpleType>
1158     </xs:attribute>
1159     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1160   </xs:complexType>
1161   <xs:complexType name="EMS_MT.EntityChoice">
1162     <xs:choice>
1163       <xs:element name="playingPlayingEntity" type="EMS_MT.PlayingEntity" minOccurs="0"/>
1164     </xs:choice>
1165     <xs:attribute name="type" type="Classes" default="Entity"/>
1166     <xs:attribute name="templateId" use="optional">
1167       <xs:simpleType>
1168         <xs:list itemType="oid"/>
1169       </xs:simpleType>
1170     </xs:attribute>
1171     <xs:attribute name="typeID" use="optional">
1172       <xs:simpleType>
1173         <xs:list itemType="oid"/>
1174       </xs:simpleType>
1175     </xs:attribute>
1176     <xs:attribute name="realmCode" use="optional">
1177       <xs:simpleType>
1178         <xs:list itemType="cs"/>
1179       </xs:simpleType>
1180     </xs:attribute>
1181     <xs:attribute name="nullFlavor" type="cs" use="optional"/>
```

```

1182 </xs:complexType>
1183 <xs:complexType name="EMS_MT.DrugOrOtherMaterial">
1184   <xs:choice>
1185     <xs:element name="manufacturedLabeledDrug" type="EMS_MT.LabeledDrug"/>
1186   </xs:choice>
1187   <xs:attribute name="type" type="Classes" default="Entity"/>
1188   <xs:attribute name="templateId" use="optional">
1189     <xs:simpleType>
1190       <xs:list itemType="oid"/>
1191     </xs:simpleType>
1192   </xs:attribute>
1193   <xs:attribute name="typeID" use="optional">
1194     <xs:simpleType>
1195       <xs:list itemType="oid"/>
1196     </xs:simpleType>
1197   </xs:attribute>
1198   <xs:attribute name="realmCode" use="optional">
1199     <xs:simpleType>
1200       <xs:list itemType="cs"/>
1201     </xs:simpleType>
1202   </xs:attribute>
1203   <xs:attribute name="nullFlavor" type="cs" use="optional"/>
1204 </xs:complexType>
1205 </xs:schema>

```

## e-MS Datatypes (EMS\_datatypes.xsd)

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  This schema supplements the HL7 v3 datatypes schema. It restricts the datatypes further for the purposes
  of the e-MS project.
-->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:hl7="urn:hl7-org:v3"
  elementFormDefault="qualified">
  <xsd:include schemaLocation="datatypes.xsd"/>
  <!-- EMS.II.RootExtension -->
  <xsd:complexType name="EMS.II.RootExtension">
    <xsd:attribute name="root" type="uid" use="required"/>
    <xsd:attribute name="extension" type="st" use="required"/>
  </xsd:complexType>
  <!-- EMS.II.RootExtensionAuthority -->
  <xsd:complexType name="EMS.II.RootExtensionAuthority">
    <xsd:attribute name="root" type="uid" use="optional"/>
    <xsd:attribute name="extension" type="st" use="required"/>
    <xsd:attribute name="assigningAuthorityName" type="st" use="required"/>
  </xsd:complexType>
  <!-- EMS.CE.Full -->
  <xsd:complexType name="EMS.CE.Full">
    <xsd:attribute name="code" type="cs" use="required"/>
    <xsd:attribute name="codeSystem" type="uid" use="required"/>
    <xsd:attribute name="codeSystemName" type="st" use="required"/>
    <xsd:attribute name="displayName" type="st" use="required"/>
  </xsd:complexType>
  <!-- EMS.TS -->
  <xsd:complexType name="EMS.TS">
    <xsd:complexContent>
      <xsd:extension base="QTY">
        <xsd:attribute name="value" type="ts" use="required"/>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <!-- EMS.TEL -->
  <xsd:complexType name="EMS.TEL">
    <xsd:complexContent>
      <xsd:extension base="EMS.URL">
        <xsd:attribute name="use" type="set_cs_TelecommunicationAddressUse" use="required"/>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <!-- EMS.URL -->
  <xsd:complexType name="EMS.URL">
    <xsd:complexContent>
      <xsd:extension base="ANY">
        <xsd:attribute name="value" type="url" use="required"/>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
</xsd:schema>
```

## Datatypes (datatypes.xsd)

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
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  modification, are permitted provided that the following conditions
  are met:
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      This product includes software developed by Health Level Seven.

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  ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
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  ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
  FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
  DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
  OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
  HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
  LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
  OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
  SUCH DAMAGE.
-->
<!--
  This schema is generated from a Generic Schema Definition (GSD)
  by gsd2xsl. Better not edit this file.
-->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:hl7="urn:hl7-org:v3" xmlns:xlink="http://www.w3.org/TR/WD-xlink"
xmlns:gsd="http://aurora.regenstrief.org/GenericXMLSchema" xmlns:sch="http://www.ascc.net/xml/schematron"
elementFormDefault="qualified">
  <xsd:complexType name="ANY" abstract="true">
    <xsd:annotation>
      <xsd:documentation>
        Defines the basic properties of every data value. This is an abstract
        type, meaning that no value can be just a data value without belonging
        to any concrete type. Every concrete type is a specialization of this
        general abstract DataValue type.
      </xsd:documentation>
      <xsd:appinfo/>
    </xsd:annotation>
    <xsd:attribute name="nullFlavor" type="cs_NullFlavor" use="optional">
      <xsd:annotation>
        <xsd:documentation>
          An exceptional value expressing missing information and possibly the
          reason why the information is missing.
        </xsd:documentation>
        <xsd:appinfo/>
      </xsd:annotation>
    </xsd:attribute>
  </xsd:complexType>
  <xsd:simpleType name="cs_NullFlavor">
    <xsd:restriction base="cs">
      <xsd:enumeration value="NI"/>
      <xsd:enumeration value="NA"/>
      <xsd:enumeration value="UNK"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:schema>
```

```
1322         <xsd:enumeration value="NASK"/>
1323         <xsd:enumeration value="ASKU"/>
1324         <xsd:enumeration value="NAV"/>
1325         <xsd:enumeration value="OTH"/>
1326         <xsd:enumeration value="PINF"/>
1327         <xsd:enumeration value="NINF"/>
1328     </xsd:restriction>
1329 </xsd:simpleType>
1330 <xsd:simpleType name="bl">
1331     <xsd:annotation>
1332         <xsd:documentation>
1333             The Boolean type stands for the values of two-valued logic. A
1334             Boolean value can be either true or
1335             false, or, as any other value may be NULL.
1336         </xsd:documentation>
1337         <xsd:appinfo/>
1338     </xsd:annotation>
1339     <xsd:restriction base="xsd:boolean">
1340         <xsd:pattern value="true|false"/>
1341     </xsd:restriction>
1342 </xsd:simpleType>
1343 <xsd:complexType name="BL">
1344     <xsd:annotation>
1345         <xsd:documentation>
1346             The Boolean type stands for the values of two-valued logic. A
1347             Boolean value can be either true or
1348             false, or, as any other value may be NULL.
1349         </xsd:documentation>
1350         <xsd:appinfo>
1351             <sch:pattern name="validate BL">
1352                 <sch:rule abstract="true" id="rule-BL">
1353                     <sch:report test="(@nullFlavor or @value) and not(@nullFlavor and @value)"/>
1354                 </sch:rule>
1355             </sch:pattern>
1356             Although the use of the value is optional, this
1357             constraint (expressed as an XPath predicate), specifies that there
1358             must be either an value or the
1359             attribute, but not both.
1360         </p>
1361     </sch:report>
1362     </sch:rule>
1363     </sch:pattern>
1364 </xsd:annotation>
1365 <xsd:complexContent>
1366     <xsd:extension base="ANY">
1367         <xsd:attribute name="value" type="bl" use="optional"/>
1368     </xsd:extension>
1369 </xsd:complexContent>
1370 </xsd:complexType>
1371 <xsd:simpleType name="bn">
1372     <xsd:annotation>
1373         <xsd:documentation>
1374             The BooleanNonNull type is used where a Boolean cannot have a null value. A
1375             Boolean value can be either true or
1376             false.
1377         </xsd:documentation>
1378         <xsd:appinfo/>
1379     </xsd:annotation>
1380     <xsd:restriction base="bl"/>
1381 </xsd:simpleType>
1382 <xsd:simpleType name="bin">
1383     <xsd:annotation>
1384         <xsd:documentation>
1385             Binary data is a raw block of bits. Binary data is a protected
1386             type that should not be declared outside the data type specification.
1387         </xsd:documentation>
```

```
1388     <xsd:appinfo/>
1389   </xsd:annotation>
1390   <xsd:restriction base="xsd:base64Binary"/>
1391 </xsd:simpleType>
1392 <xsd:simpleType name="cs_BinaryDataEncoding">
1393   <xsd:restriction base="xsd:NMTOKEN">
1394     <xsd:enumeration value="B64"/>
1395     <xsd:enumeration value="TXT"/>
1396   </xsd:restriction>
1397 </xsd:simpleType>
1398 <xsd:complexType name="BIN" abstract="true" mixed="true">
1399   <xsd:annotation>
1400     <xsd:documentation>
1401       Binary data is a raw block of bits. Binary data is a protected
1402       type that should not be declared outside the data type specification.
1403     </xsd:documentation>
1404     <xsd:appinfo/>
1405   </xsd:annotation>
1406   <xsd:complexContent mixed="true">
1407     <xsd:extension base="ANY">
1408       <xsd:attribute name="representation" type="cs_BinaryDataEncoding" use="optional"
1409       default="TXT">
1410         <xsd:annotation>
1411           <xsd:documentation>
1412             Specifies the representation of the binary data that is the content
1413             of the binary data complex XML schema data type.
1414           </xsd:documentation>
1415           <xsd:appinfo/>
1416         </xsd:annotation>
1417       </xsd:attribute>
1418     </xsd:extension>
1419   </xsd:complexContent>
1420 </xsd:complexType>
1421 <xsd:simpleType name="cs_CompressionAlgorithm">
1422   <xsd:restriction base="cs">
1423     <xsd:enumeration value="DF"/>
1424     <xsd:enumeration value="GZ"/>
1425     <xsd:enumeration value="ZL"/>
1426     <xsd:enumeration value="Z"/>
1427   </xsd:restriction>
1428 </xsd:simpleType>
1429 <xsd:simpleType name="cs_IntegrityCheckAlgorithm">
1430   <xsd:restriction base="cs">
1431     <xsd:enumeration value="SHA-1"/>
1432     <xsd:enumeration value="SHA-256"/>
1433   </xsd:restriction>
1434 </xsd:simpleType>
1435 <xsd:complexType name="ED" mixed="true">
1436   <xsd:annotation>
1437     <xsd:documentation>
1438       Data that is primarily intended for human interpretation or for
1439       further machine processing is outside the scope of HL7. This includes
1440       unformatted or formatted written language, multimedia data, or
1441       structured information as defined by a different standard (e.g.,
1442       XML-signatures.) Instead of the data itself, an ED
1443       may contain only a reference (see TEL.) Note that
1444       the ST data type is a specialization of the
1445       ED data type when the ED
1446       media type is text/plain.
1447     </xsd:documentation>
1448     <xsd:appinfo/>
1449   </xsd:annotation>
1450   <xsd:complexContent mixed="true">
1451     <xsd:extension base="BIN">
1452       <xsd:sequence>
1453         <xsd:element name="reference" type="TEL" minOccurs="0">
```

```
1454         <xsd:annotation>
1455         <xsd:documentation>
1456 A telecommunication address (TEL), such as a URL for HTTP or FTP,
1457 which will resolve to precisely the same binary data that could as
1458 well have been provided as inline data.
1459 </xsd:documentation>
1460         <xsd:appinfo/>
1461       </xsd:annotation>
1462     </xsd:element>
1463     <xsd:element name="thumbnail" type="thumbnail" minOccurs="0"/>
1464   </xsd:sequence>
1465   <xsd:attribute name="mediaType" type="cs" use="optional" default="text/plain">
1466     <xsd:annotation>
1467     <xsd:documentation>
1468 Identifies the type of the encapsulated data and identifies a
1469 method to interpret or render the data.
1470 </xsd:documentation>
1471     <xsd:appinfo/>
1472     </xsd:annotation>
1473   </xsd:attribute>
1474   <xsd:attribute name="language" type="cs" use="optional">
1475     <xsd:annotation>
1476     <xsd:documentation>
1477 For character based information the language property
1478 specifies the human language of the text.
1479 </xsd:documentation>
1480     <xsd:appinfo/>
1481     </xsd:annotation>
1482   </xsd:attribute>
1483   <xsd:attribute name="compression" type="cs_CompressionAlgorithm" use="optional">
1484     <xsd:annotation>
1485     <xsd:documentation>
1486 Indicates whether the raw byte data is compressed, and what
1487 compression algorithm was used.
1488 </xsd:documentation>
1489     <xsd:appinfo/>
1490     </xsd:annotation>
1491   </xsd:attribute>
1492   <xsd:attribute name="integrityCheck" type="bin" use="optional">
1493     <xsd:annotation>
1494     <xsd:documentation>
1495 The integrity check is a short binary value representing a
1496 cryptographically strong checksum that is calculated over the binary
1497 data. The purpose of this property, when communicated with a reference
1498 is for anyone to validate later whether the reference still resolved
1499 to the same data that the reference resolved to when the encapsulated
1500 data value with reference was created.
1501 </xsd:documentation>
1502     <xsd:appinfo/>
1503     </xsd:annotation>
1504   </xsd:attribute>
1505   <xsd:attribute name="integrityCheckAlgorithm" type="cs_IntegrityCheckAlgorithm" use="optional"
1506 default="SHA-1">
1507     <xsd:annotation>
1508     <xsd:documentation>
1509 Specifies the algorithm used to compute the integrityCheck value.
1510 </xsd:documentation>
1511     <xsd:appinfo/>
1512     </xsd:annotation>
1513   </xsd:attribute>
1514 </xsd:extension>
1515 </xsd:complexContent>
1516 </xsd:complexType>
1517 <xsd:complexType name="thumbnail">
1518   <xsd:annotation>
1519     <xsd:documentation>
```



A thumbnail is an abbreviated rendition of the full data. A thumbnail requires significantly fewer resources than the full data, while still maintaining some distinctive similarity with the full data. A thumbnail is typically used with by-reference encapsulated data. It allows a user to select data more efficiently before actually downloading through the reference.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
<xsd:complexContent>
  <xsd:restriction base="ED">
    <xsd:sequence>
      <xsd:element name="reference" type="TEL" minOccurs="0"/>
      <xsd:element name="thumbnail" type="thumbnail" minOccurs="0" maxOccurs="0"/>
    </xsd:sequence>
  </xsd:restriction>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="st">
  <xsd:annotation>
    <xsd:documentation>
```

The character string data type stands for text data, primarily intended for machine processing (e.g., sorting, querying, indexing, etc.) Used for names, symbols, and formal expressions.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
<xsd:restriction base="xsd:string">
  <xsd:minLength value="1"/>
</xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="ST" mixed="true">
  <xsd:annotation>
    <xsd:documentation>
```

The character string data type stands for text data, primarily intended for machine processing (e.g., sorting, querying, indexing, etc.) Used for names, symbols, and formal expressions.

```
</xsd:documentation>
  <xsd:appinfo>
    <sch:pattern name="validate ST">
      <sch:rule abstract="true" id="rule-ST">
        <sch:report test="(@nullFlavor or text()) and not(@nullFlavor and text())"
          <p>Text content is only allowed in non-NULL values.</p>
        </sch:report>
      </sch:rule>
    </sch:pattern>
  </xsd:appinfo>
</xsd:annotation>
<xsd:complexContent mixed="true">
  <xsd:restriction base="ED">
    <xsd:sequence>
      <xsd:element name="reference" type="TEL" minOccurs="0" maxOccurs="0"/>
      <xsd:element name="thumbnail" type="ED" minOccurs="0" maxOccurs="0"/>
    </xsd:sequence>
    <xsd:attribute name="representation" type="cs_BinaryDataEncoding" fixed="TXT"/>
    <xsd:attribute name="mediaType" type="cs" fixed="text/plain"/>
    <xsd:attribute name="language" type="cs" use="optional"/>
    <xsd:attribute name="compression" type="cs_CompressionAlgorithm" use="prohibited"/>
    <xsd:attribute name="integrityCheck" type="bin" use="prohibited"/>
    <xsd:attribute name="integrityCheckAlgorithm" type="cs_IntegrityCheckAlgorithm"
use="prohibited"/>
  </xsd:restriction>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="cs">
  <xsd:annotation>
```



Coded data in its simplest form, consists of a code and original text. The code system and code system version is fixed by the context in which the CS value occurs. CS is used for coded attributes that have a single HL7-defined value set.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
  <xsd:restriction base="xsd:token">
    <xsd:pattern value="[^\s]*"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CD">
  <xsd:annotation>
    <xsd:documentation>
```

A concept descriptor represents any kind of concept usually by giving a code defined in a code system.

A concept descriptor can contain the original text or phrase that served as the basis of the coding and one or more translations into different coding systems.

A concept descriptor can also contain qualifiers to describe, e.g., the concept of a "left foot" as a postcoordinated term built from the primary code "FOOT" and the qualifier "LEFT".

In exceptional cases, the concept descriptor need not contain a code but only the original text describing that concept.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
<xsd:complexContent>
  <xsd:extension base="ANY">
    <xsd:sequence>
      <xsd:element name="originalText" type="ED" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation>
```

The text or phrase used as the basis for the coding.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
</xsd:element>
  <xsd:element name="qualifier" type="CR" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation>
```

Specifies additional codes that increase the specificity of the primary code.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
</xsd:element>
  <xsd:element name="translation" type="CD" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation>
```

A set of other concept descriptors that translate this concept descriptor into other code systems.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
</xsd:element>
</xsd:sequence>
  <xsd:attribute name="code" type="cs" use="optional">
    <xsd:annotation>
      <xsd:documentation>
```

The plain code symbol defined by the code system. For example, "784.0" is the code symbol of the ICD-9 code "784.0" for headache.

```
1652 </xsd:documentation>
1653         <xsd:appinfo/>
1654     </xsd:annotation>
1655 </xsd:attribute>
1656 <xsd:attribute name="codeSystem" type="uid" use="optional">
1657     <xsd:annotation>
1658         <xsd:documentation>
1659 Specifies the code system that defines the code.
1660 </xsd:documentation>
1661         <xsd:appinfo/>
1662     </xsd:annotation>
1663 </xsd:attribute>
1664 <xsd:attribute name="codeSystemName" type="st" use="optional">
1665     <xsd:annotation>
1666         <xsd:documentation>
1667 A common name of the coding system.
1668 </xsd:documentation>
1669         <xsd:appinfo/>
1670     </xsd:annotation>
1671 </xsd:attribute>
1672 <xsd:attribute name="codeSystemVersion" type="st" use="optional">
1673     <xsd:annotation>
1674         <xsd:documentation>
1675 If applicable, a version descriptor defined specifically for the given
1676 code system.
1677 </xsd:documentation>
1678         <xsd:appinfo/>
1679     </xsd:annotation>
1680 </xsd:attribute>
1681 <xsd:attribute name="displayName" type="st" use="optional">
1682     <xsd:annotation>
1683         <xsd:documentation>
1684 A name or title for the code, under which the sending system shows the
1685 code value to its users.
1686 </xsd:documentation>
1687         <xsd:appinfo/>
1688     </xsd:annotation>
1689 </xsd:attribute>
1690 </xsd:extension>
1691 </xsd:complexContent>
1692 </xsd:complexType>
1693 <!-- requires ref='schema-CV' -->
1694 FIXME: This dependency is cyclic, but it shouldn't hurt.
1695 Make sure it doesn't hurt. -->
1696 <xsd:complexType name="CE">
1697     <xsd:annotation>
1698         <xsd:documentation>
1699 Coded data, consists of a coded value (CV) and, optionally, coded
1700 value(s) from other coding systems that identify the same
1701 concept. Used when alternative codes may exist.
1702 </xsd:documentation>
1703         <xsd:appinfo/>
1704     </xsd:annotation>
1705 <xsd:complexContent>
1706     <xsd:restriction base="CD">
1707         <xsd:sequence>
1708             <xsd:element name="qualifier" type="CR" minOccurs="0" maxOccurs="0"/>
1709             <xsd:element name="originalText" type="ED" minOccurs="0"/>
1710         </xsd:sequence>
1711     </xsd:restriction>
1712 </xsd:complexContent>
1713 </xsd:complexType>
1714 </xsd:element>
1715 <xsd:element name="translation" type="CD" minOccurs="0" maxOccurs="unbounded">
```

```
1718         <xsd:annotation>
1719         <xsd:documentation>
1720 A set of other concept descriptors that translate this concept
1721 descriptor into other code systems.
1722 </xsd:documentation>
1723         <xsd:appinfo/>
1724     </xsd:annotation>
1725 </xsd:element>
1726 </xsd:sequence>
1727 <xsd:attribute name="code" type="cs" use="optional">
1728     <xsd:annotation>
1729     <xsd:documentation>
1730 The plain code symbol defined by the code system. For example,
1731 "784.0" is the code symbol of the ICD-9 code "784.0" for headache.
1732 </xsd:documentation>
1733     <xsd:appinfo/>
1734     </xsd:annotation>
1735     </xsd:attribute>
1736 <xsd:attribute name="codeSystem" type="uid" use="optional">
1737     <xsd:annotation>
1738     <xsd:documentation>
1739 Specifies the code system that defines the code.
1740 </xsd:documentation>
1741     <xsd:appinfo/>
1742     </xsd:annotation>
1743     </xsd:attribute>
1744 <xsd:attribute name="codeSystemName" type="st" use="optional">
1745     <xsd:annotation>
1746     <xsd:documentation>
1747 A common name of the coding system.
1748 </xsd:documentation>
1749     <xsd:appinfo/>
1750     </xsd:annotation>
1751     </xsd:attribute>
1752 <xsd:attribute name="codeSystemVersion" type="st" use="optional">
1753     <xsd:annotation>
1754     <xsd:documentation>
1755 If applicable, a version descriptor defined specifically for the given
1756 code system.
1757 </xsd:documentation>
1758     <xsd:appinfo/>
1759     </xsd:annotation>
1760     </xsd:attribute>
1761 <xsd:attribute name="displayName" type="st" use="optional">
1762     <xsd:annotation>
1763     <xsd:documentation>
1764 A name or title for the code, under which the sending system shows the
1765 code value to its users.
1766 </xsd:documentation>
1767     <xsd:appinfo/>
1768     </xsd:annotation>
1769     </xsd:attribute>
1770 </xsd:restriction>
1771 </xsd:complexContent>
1772 </xsd:complexType>
1773 <xsd:complexType name="CV">
1774     <xsd:annotation>
1775     <xsd:documentation>
1776 Coded data, consists of a code, display name, code system, and
1777 original text. Used when a single code value must be sent.
1778 </xsd:documentation>
1779     <xsd:appinfo/>
1780     </xsd:annotation>
1781     <xsd:complexContent>
1782     <xsd:restriction base="CE">
1783     <xsd:sequence>
```

```
1784         <xsd:element name="originalText" type="ED" minOccurs="0">
1785             <xsd:annotation>
1786                 <xsd:documentation>
1787 The text or phrase used as the basis for the coding.
1788 </xsd:documentation>
1789             <xsd:appinfo/>
1790         </xsd:annotation>
1791     </xsd:element>
1792     <xsd:element name="translation" type="CD" minOccurs="0" maxOccurs="0"/>
1793 </xsd:sequence>
1794 <xsd:attribute name="code" type="cs" use="optional">
1795     <xsd:annotation>
1796         <xsd:documentation>
1797 The plain code symbol defined by the code system. For example,
1798 "784.0" is the code symbol of the ICD-9 code "784.0" for headache.
1799 </xsd:documentation>
1800     <xsd:appinfo/>
1801 </xsd:annotation>
1802 </xsd:attribute>
1803 <xsd:attribute name="codeSystem" type="uid" use="optional">
1804     <xsd:annotation>
1805         <xsd:documentation>
1806 Specifies the code system that defines the code.
1807 </xsd:documentation>
1808     <xsd:appinfo/>
1809 </xsd:annotation>
1810 </xsd:attribute>
1811 <xsd:attribute name="codeSystemName" type="st" use="optional">
1812     <xsd:annotation>
1813         <xsd:documentation>
1814 A common name of the coding system.
1815 </xsd:documentation>
1816     <xsd:appinfo/>
1817 </xsd:annotation>
1818 </xsd:attribute>
1819 <xsd:attribute name="codeSystemVersion" type="st" use="optional">
1820     <xsd:annotation>
1821         <xsd:documentation>
1822 If applicable, a version descriptor defined specifically for the given
1823 code system.
1824 </xsd:documentation>
1825     <xsd:appinfo/>
1826 </xsd:annotation>
1827 </xsd:attribute>
1828 <xsd:attribute name="displayName" type="st" use="optional">
1829     <xsd:annotation>
1830         <xsd:documentation>
1831 A name or title for the code, under which the sending system shows the
1832 code value to its users.
1833 </xsd:documentation>
1834     <xsd:appinfo/>
1835 </xsd:annotation>
1836 </xsd:attribute>
1837 </xsd:restriction>
1838 </xsd:complexContent>
1839 </xsd:complexType>
1840 <xsd:complexType name="CS">
1841     <xsd:annotation>
1842         <xsd:documentation>
1843 Coded data, consists of a code, display name, code system, and
1844 original text. Used when a single code value must be sent.
1845 </xsd:documentation>
1846     <xsd:appinfo/>
1847 </xsd:annotation>
1848 <xsd:complexContent>
1849     <xsd:restriction base="CV">
```

```
1850         <xsd:sequence/>
1851         <xsd:attribute name="code" type="cs" use="optional"/>
1852         <xsd:annotation>
1853             <xsd:documentation>
1854 The plain code symbol defined by the code system. For example,
1855 "784.0" is the code symbol of the ICD-9 code "784.0" for headache.
1856 </xsd:documentation>
1857             <xsd:appinfo/>
1858         </xsd:annotation>
1859     </xsd:attribute>
1860     <xsd:attribute name="codeSystem" type="uid"/>
1861     <xsd:attribute name="codeSystemName" type="st"/>
1862     <xsd:attribute name="codeSystemVersion" type="st"/>
1863     <xsd:attribute name="displayName" type="st" use="prohibited"/>
1864 </xsd:restriction>
1865 </xsd:complexContent>
1866 </xsd:complexType>
1867 <xsd:complexType name="CO">
1868     <xsd:annotation>
1869         <xsd:documentation>
1870 Coded data, where the domain from which the codeset comes is ordered. The
1871 Coded Ordinal data type adds semantics related to ordering so that models
1872 that make use of such domains may introduce model elements that involve
1873 statements about the order of the terms in a domain. The representation is
1874 exactly the same as CV, but the type still needs to be defined.
1875 </xsd:documentation>
1876         <xsd:appinfo/>
1877     </xsd:annotation>
1878     <xsd:complexContent>
1879         <xsd:extension base="CV"/>
1880     </xsd:complexContent>
1881 </xsd:complexType>
1882 <xsd:complexType name="CR">
1883     <xsd:annotation>
1884         <xsd:documentation>
1885 A concept qualifier code with optionally named role. Both qualifier
1886 role and value codes must be defined by the coding system. For
1887 example, if SNOMED RT defines a concept "leg", a role relation
1888 "has-laterality", and another concept "left", the concept role
1889 relation allows to add the qualifier "has-laterality: left" to a
1890 primary code "leg" to construct the meaning "left leg".
1891 </xsd:documentation>
1892         <xsd:appinfo>
1893             <sch:pattern name="validate CR">
1894                 <sch:rule abstract="true" id="rule-CR">
1895                     <sch:report test="(value or @nullFlavor) and not(@nullFlavor and node())">
1896                         <p>A value component is required or else the code role is NULL.</p>
1897                     </sch:report>
1898                 </sch:rule>
1899             </sch:pattern>
1900         </xsd:appinfo>
1901     </xsd:annotation>
1902     <xsd:complexContent>
1903         <xsd:extension base="CD">
1904             <xsd:sequence>
1905                 <xsd:element name="name" type="CV" minOccurs="0">
1906                     <xsd:annotation>
1907                         <xsd:documentation>
1908 Specifies the manner in which the concept role value contributes to
1909 the meaning of a code phrase. For example, if SNOMED RT defines a
1910 concept "leg", a role relation "has-laterality", and another concept
1911 "left", the concept role relation allows to add the qualifier
1912 "has-laterality: left" to a primary code "leg" to construct the
1913 meaning "left leg". In this example "has-laterality" is the CR.name.
1914 </xsd:documentation>
1915                     <xsd:appinfo/>
```

1916                   </xsd:annotation>  
1917                   </xsd:element>  
1918                   <xsd:element name="value" type="CD" minOccurs="0">  
1919                   <xsd:annotation>  
1920                   <xsd:documentation>  
1921                   The concept that modifies the primary code of a code phrase through  
1922                   the role relation. For example, if SNOMED RT defines a concept "leg",  
1923                   a role relation "has-laterality", and another concept "left", the  
1924                   concept role relation allows adding the qualifier "has-laterality:  
1925                   left" to a primary code "leg" to construct the meaning "left leg". In  
1926                   this example "left" is the CR.value.  
1927                   </xsd:documentation>  
1928                   <xsd:appinfo/>  
1929                   </xsd:annotation>  
1930                   </xsd:element>  
1931                   </xsd:sequence>  
1932                   <xsd:attribute name="inverted" type="bl" use="optional" default="false">  
1933                   <xsd:annotation>  
1934                   <xsd:documentation>  
1935                   Indicates if the sense of the role name is inverted. This can be used  
1936                   in cases where the underlying code system defines inversion but does  
1937                   not provide reciprocal pairs of role names. By default, inverted is  
1938                   false.  
1939                   </xsd:documentation>  
1940                   <xsd:appinfo/>  
1941                   </xsd:annotation>  
1942                   </xsd:attribute>  
1943                   </xsd:extension>  
1944                   </xsd:complexContent>  
1945                   </xsd:complexType>  
1946                   <xsd:complexType name="SC" mixed="true">  
1947                   <xsd:annotation>  
1948                   <xsd:documentation>  
1949                   A Character String that optionally  
1950                   may have a code attached. The text must always be present if a code is  
1951                   present. The code is often a local code.  
1952                   </xsd:documentation>  
1953                   <xsd:appinfo/>  
1954                   </xsd:annotation>  
1955                   <xsd:complexContent mixed="true">  
1956                   <xsd:extension base="ST">  
1957                   <xsd:attribute name="code" type="cs" use="optional">  
1958                   <xsd:annotation>  
1959                   <xsd:documentation>  
1960                   The plain code symbol defined by the code system. For example,  
1961                   "784.0" is the code symbol of the ICD-9 code "784.0" for headache.  
1962                   </xsd:documentation>  
1963                   <xsd:appinfo/>  
1964                   </xsd:annotation>  
1965                   </xsd:attribute>  
1966                   <xsd:attribute name="codeSystem" type="uid" use="optional">  
1967                   <xsd:annotation>  
1968                   <xsd:documentation>  
1969                   Specifies the code system that defines the code.  
1970                   </xsd:documentation>  
1971                   <xsd:appinfo/>  
1972                   </xsd:annotation>  
1973                   </xsd:attribute>  
1974                   <xsd:attribute name="codeSystemName" type="st" use="optional">  
1975                   <xsd:annotation>  
1976                   <xsd:documentation>  
1977                   A common name of the coding system.  
1978                   </xsd:documentation>  
1979                   <xsd:appinfo/>  
1980                   </xsd:annotation>  
1981                   </xsd:attribute>



```
1982         <xsd:attribute name="codeSystemVersion" type="st" use="optional">
1983             <xsd:annotation>
1984                 <xsd:documentation>
1985                     If applicable, a version descriptor defined specifically for the given
1986                     code system.
1987                 </xsd:documentation>
1988             </xsd:annotation>
1989         </xsd:attribute>
1990         <xsd:attribute name="displayName" type="st" use="optional">
1991             <xsd:annotation>
1992                 <xsd:documentation>
1993                     A name or title for the code, under which the sending system shows the
1994                     code value to its users.
1995                 </xsd:documentation>
1996             </xsd:annotation>
1997         </xsd:attribute>
1998         <xsd:extension base="oid" type="ruid"/>
1999         <xsd:union memberTypes="oid uuid ruid"/>
2000     </xsd:simpleType>
2001     <xsd:simpleType name="oid">
2002         <xsd:restriction base="xsd:string">
2003             <xsd:pattern value="([1-9][0-9]*)(\.[1-9][0-9]*)*/>
2004         </xsd:restriction>
2005     </xsd:simpleType>
2006     <xsd:simpleType name="uuid">
2007         <xsd:restriction base="xsd:string">
2008             <xsd:pattern value="[0-9a-zA-Z]{8}-[0-9a-zA-Z]{4}-[0-9a-zA-Z]{4}-[0-9a-zA-Z]{4}-[0-9a-zA-Z]{12}"/>
2009         </xsd:restriction>
2010     </xsd:simpleType>
2011     <xsd:simpleType name="ruid">
2012         <xsd:restriction base="xsd:string">
2013             <xsd:pattern value="[A-Za-z][A-Za-z0-9-]*/>
2014         </xsd:restriction>
2015     </xsd:simpleType>
2016     <xsd:complexType name="II">
2017         <xsd:annotation>
2018             <xsd:documentation>
2019                 An identifier that uniquely identifies a thing or object. Examples
2020                 are object identifier for HL7 RIM objects, medical record number,
2021                 order id, service catalog item id, Vehicle Identification Number
2022                 (VIN), etc. Instance identifiers are defined based on ISO object
2023                 identifiers.
2024             </xsd:documentation>
2025         </xsd:annotation>
2026     </xsd:complexType>
2027     <xsd:pattern name="validate II">
```

```
2048         <sch:rule abstract="true" id="rule-II">
2049             <sch:report test="(@root or @nullFlavor) and not(@root and @nullFlavor)">
2050 A root component is required or else the II value is NULL.
2051 </sch:report>
```

```
2052     </sch:rule>
2053 </sch:pattern>
2054 </xsd:appinfo>
2055 </xsd:annotation>
2056 <xsd:complexContent>
2057     <xsd:extension base="ANY">
2058         <xsd:attribute name="root" type="uid" use="optional">
2059             <xsd:annotation>
2060                 <xsd:documentation>
```

2061 A unique identifier that guarantees the global uniqueness of the  
2062 instance identifier. The root alone may be the entire instance  
2063 identifier.

```
2064 </xsd:documentation>
2065     <xsd:appinfo/>
2066     <xsd:annotation>
2067 </xsd:attribute>
2068 <xsd:attribute name="extension" type="st" use="optional">
2069     <xsd:annotation>
2070         <xsd:documentation>
```

2071 A character string as a unique identifier within the scope of the  
2072 identifier root.

```
2073 </xsd:documentation>
2074     <xsd:appinfo/>
2075     <xsd:annotation>
2076 </xsd:attribute>
2077 <xsd:attribute name="assigningAuthorityName" type="st" use="optional">
2078     <xsd:annotation>
2079         <xsd:documentation>
```

2080 A human readable name or mnemonic for the assigning authority. This  
2081 name may be provided solely for the convenience of unaided humans  
2082 interpreting an II value and can have no computational meaning.

2084 Note: no automated processing must depend on the assigning authority  
2085 name to be present in any form.

```
2086 </xsd:documentation>
2087     <xsd:appinfo/>
2088     <xsd:annotation>
2089 </xsd:attribute>
2090 <xsd:attribute name="displayable" type="bl" use="optional">
2091     <xsd:annotation>
2092         <xsd:documentation>
```

2093 Specifies if the identifier is intended for human  
2094 display and data entry (displayable = true) as opposed to pure machine  
2095 interoperoperation (displayable = false).

```
2096 </xsd:documentation>
2097     <xsd:appinfo/>
2098     <xsd:annotation>
2099 </xsd:attribute>
2100 </xsd:extension>
2101 </xsd:complexContent>
2102 </xsd:complexType>
2103 <xsd:simpleType name="url">
2104     <xsd:annotation>
2105         <xsd:documentation>
```

2106 A telecommunications address specified according to Internet standard  
2107 RFC 1738 [http://www.ietf.org/rfc/rfc1738.txt]. The  
2108 URL specifies the protocol and the contact point defined by that  
2109 protocol for the resource. Notable uses of the telecommunication  
2110 address data type are for telephone and telefax numbers, e-mail  
2111 addresses, Hypertext references, FTP references, etc.

```
2112 </xsd:documentation>
2113 </xsd:appinfo/>
```



```
2114     </xsd:annotation>
2115     <xsd:restriction base="xsd:anyURI"/>
2116 </xsd:simpleType>
2117 <xsd:complexType name="URL">
2118   <xsd:annotation>
2119     <xsd:documentation>
2120       A telecommunications address specified according to Internet standard
2121       RFC 1738 [http://www.ietf.org/rfc/rfc1738.txt]. The
2122       URL specifies the protocol and the contact point defined by that
2123       protocol for the resource. Notable uses of the telecommunication
2124       address data type are for telephone and telefax numbers, e-mail
2125       addresses, Hypertext references, FTP references, etc.
2126     </xsd:documentation>
2127     <xsd:appinfo>
2128       <sch:pattern name="validate URL">
2129         <sch:rule abstract="true" id="rule-URL">
2130           <sch:report test="(@nullFlavor or @value) and not(@nullFlavor and @value)">
2131             <p>
2132               Although the use of the value is optional, the
2133               constraint (expressed as an XPath predicate), specifies that there
2134               must be either an value or the
2135               attribute, but not both.
2136             </p>
2137           </sch:report>
2138         </sch:rule>
2139       </sch:pattern>
2140     </xsd:appinfo>
2141   </xsd:annotation>
2142   <xsd:complexContent>
2143     <xsd:extension base="ANY">
2144       <xsd:attribute name="value" type="url" use="optional"/>
2145     </xsd:extension>
2146   </xsd:complexContent>
2147 </xsd:complexType>
2148 <xsd:simpleType name="ts">
2149   <xsd:annotation>
2150     <xsd:documentation>
2151       A quantity specifying a point on the axis of natural time. A point
2152       in time is most often represented as a calendar expression.
2153     </xsd:documentation>
2154     <xsd:appinfo/>
2155   </xsd:annotation>
2156   <xsd:restriction base="xsd:string">
2157     <xsd:pattern value="[0-9]{1,8}|([0-9]{9,14}|[0-9]{14,14}\.[0-9+])([+|-][0-9]{1,4})?">
2158   </xsd:restriction>
2159 </xsd:simpleType>
2160 <xsd:complexType name="TS">
2161   <xsd:annotation>
2162     <xsd:documentation>
2163       A quantity specifying a point on the axis of natural time. A point
2164       in time is most often represented as a calendar expression.
2165     </xsd:documentation>
2166     <xsd:appinfo>
2167       <diff>PQ</diff>
2168     </xsd:appinfo>
2169   </xsd:annotation>
2170   <xsd:complexContent>
2171     <xsd:extension base="QTY">
2172       <xsd:attribute name="value" type="ts" use="optional"/>
2173     </xsd:extension>
2174   </xsd:complexContent>
2175 </xsd:complexType>
2176 <xsd:simpleType name="cs_TelecommunicationAddressUse">
2177   <xsd:restriction base="cs">
2178     <xsd:enumeration value="H"/>
2179     <xsd:enumeration value="HP"/>
```

```
2180         <xsd:enumeration value="HV"/>
2181         <xsd:enumeration value="WP"/>
2182         <xsd:enumeration value="AS"/>
2183         <xsd:enumeration value="EC"/>
2184         <xsd:enumeration value="PG"/>
2185         <xsd:enumeration value="MC"/>
2186     </xsd:restriction>
2187 </xsd:simpleType>
2188 <xsd:complexType name="TEL">
2189     <xsd:annotation>
2190         <xsd:documentation>
2191             A telephone number (voice or fax), e-mail address, or other locator
2192             for a resource (information or service) mediated by telecommunication
2193             equipment. The address is specified as a Universal Resource Locator
2194             (URL) qualified by time specification and use codes that help in
2195             deciding which address to use for a given time and purpose.
2196         </xsd:documentation>
2197         <xsd:appinfo/>
2198     </xsd:annotation>
2199     <xsd:complexContent>
2200         <xsd:extension base="URL">
2201             <xsd:sequence>
2202                 <xsd:element name="useablePeriod" type="SXCM_TS" minOccurs="0"
2203 maxOccurs="unbounded">
2204                     <xsd:annotation>
2205                         <xsd:documentation>
2206                             Specifies the periods of time during which the telecommunication
2207                             address can be used. For a telephone number, this can indicate the
2208                             time of day in which the party can be reached on that telephone. For
2209                             a web address, it may specify a time range in which the web content is
2210                             promised to be available under the given address.
2211                         </xsd:documentation>
2212                     <xsd:appinfo/>
2213                     </xsd:annotation>
2214                     <!-- FIXME: one would expect the name "GTS" here but it's not
2215 SXCM does ALL the right things, it's just not the right NAME. -->
2216                     </xsd:element>
2217                 </xsd:sequence>
2218                 <xsd:attribute name="use" type="set_cs_TelecommunicationAddressUse" use="optional">
2219                     <xsd:annotation>
2220                         <xsd:documentation>
2221                             One or more codes advising a system or user which telecommunication
2222                             address in a set of like addresses to select for a given
2223                             telecommunication need.
2224                         </xsd:documentation>
2225                     <xsd:appinfo/>
2226                     </xsd:annotation>
2227                 </xsd:attribute>
2228             </xsd:extension>
2229         </xsd:complexContent>
2230     </xsd:complexType>
2231 <xsd:simpleType name="cs_AddressPartType">
2232     <xsd:restriction base="cs">
2233         <xsd:enumeration value="DEL"/>
2234         <xsd:enumeration value="CNT"/>
2235         <xsd:enumeration value="STA"/>
2236         <xsd:enumeration value="CPA"/>
2237         <xsd:enumeration value="CTY"/>
2238         <xsd:enumeration value="ZIP"/>
2239         <xsd:enumeration value="SAL"/>
2240         <xsd:enumeration value="BNR"/>
2241         <xsd:enumeration value="BNN"/>
2242         <xsd:enumeration value="DIR"/>
2243         <xsd:enumeration value="STR"/>
2244         <xsd:enumeration value="STB"/>
2245         <xsd:enumeration value="STYP"/>
```

```
2246      <xsd:enumeration value="ADL"/>
2247      <xsd:enumeration value="UNID"/>
2248      <xsd:enumeration value="UNIT"/>
2249      <xsd:enumeration value="CAR"/>
2250      <xsd:enumeration value="CEN"/>
2251    </xsd:restriction>
2252  </xsd:simpleType>
2253  <xsd:complexType name="ADXP" mixed="true">
2254    <xsd:annotation>
2255      <xsd:documentation>
2256        A character string that may have a type-tag signifying its role in the
2257        address. Typical parts that exist in about every address are street,
2258        house number, or post box, postal code, city, country but other roles
2259        may be defined regionally, nationally, or on an enterprise level
2260        (e.g. in military addresses). Addresses are usually broken up into
2261        lines, which are indicated by special line-breaking delimiter elements
2262        (e.g., DEL).
2263      </xsd:documentation>
2264      <xsd:appinfo/>
2265    </xsd:annotation>
2266    <xsd:complexContent mixed="true">
2267      <xsd:extension base="ST">
2268        <xsd:attribute name="partType" type="cs_AddressPartType">
2269          <xsd:annotation>
2270            <xsd:documentation>
2271              Specifies whether an address part names the street, city, country,
2272              postal code, post box, etc. If the type is NULL the address part is
2273              unclassified and would simply appear on an address label as is.
2274            </xsd:documentation>
2275            <xsd:appinfo/>
2276          </xsd:annotation>
2277          </xsd:attribute>
2278        </xsd:extension>
2279      </xsd:complexContent>
2280    </xsd:complexType>
2281    <xsd:simpleType name="cs_PostalAddressUse">
2282      <xsd:restriction base="cs">
2283        <xsd:enumeration value="PHYS"/>
2284        <xsd:enumeration value="PST"/>
2285        <xsd:enumeration value="TMP"/>
2286        <xsd:enumeration value="BAD"/>
2287        <xsd:enumeration value="H"/>
2288        <xsd:enumeration value="HP"/>
2289        <xsd:enumeration value="HV"/>
2290        <xsd:enumeration value="WP"/>
2291        <xsd:enumeration value="ABC"/>
2292        <xsd:enumeration value="SYL"/>
2293        <xsd:enumeration value="IDE"/>
2294      </xsd:restriction>
2295    </xsd:simpleType>
2296    <xsd:complexType name="AD" mixed="true">
2297      <xsd:annotation>
2298        <xsd:documentation>
2299          Mailing and home or office addresses. A sequence of address parts,
2300          such as street or post office Box, city, postal code, country, etc.
2301        </xsd:documentation>
2302        <xsd:appinfo/>
2303      </xsd:annotation>
2304      <xsd:complexContent mixed="true">
2305        <xsd:extension base="ANY">
2306          <xsd:sequence>
2307            <xsd:choice minOccurs="0" maxOccurs="unbounded">
2308              <xsd:element name="delimiter">
2309                <xsd:complexType mixed="true">
2310                  <xsd:complexContent mixed="true">
2311                    <xsd:restriction base="ADXP">
```

```
2312         <xsd:attribute name="partType" type="cs_AddressPartType"
2313 fixed="DEL"/>
2314     </xsd:restriction>
2315     </xsd:complexContent>
2316     </xsd:complexType>
2317 </xsd:element>
2318 <xsd:element name="country">
2319     <xsd:complexType mixed="true">
2320     <xsd:complexContent mixed="true">
2321     <xsd:restriction base="ADXP">
2322     <xsd:attribute name="partType" type="cs_AddressPartType"
2323 fixed="CNT"/>
2324     </xsd:restriction>
2325     </xsd:complexContent>
2326     </xsd:complexType>
2327 </xsd:element>
2328 <xsd:element name="state">
2329     <xsd:complexType mixed="true">
2330     <xsd:complexContent mixed="true">
2331     <xsd:restriction base="ADXP">
2332     <xsd:attribute name="partType" type="cs_AddressPartType"
2333 fixed="STA"/>
2334     </xsd:restriction>
2335     </xsd:complexContent>
2336     </xsd:complexType>
2337 </xsd:element>
2338 <xsd:element name="county">
2339     <xsd:complexType mixed="true">
2340     <xsd:complexContent mixed="true">
2341     <xsd:restriction base="ADXP">
2342     <xsd:attribute name="partType" type="cs_AddressPartType"
2343 fixed="CPA"/>
2344     </xsd:restriction>
2345     </xsd:complexContent>
2346     </xsd:complexType>
2347 </xsd:element>
2348 <xsd:element name="city">
2349     <xsd:complexType mixed="true">
2350     <xsd:complexContent mixed="true">
2351     <xsd:restriction base="ADXP">
2352     <xsd:attribute name="partType" type="cs_AddressPartType"
2353 fixed="CTY"/>
2354     </xsd:restriction>
2355     </xsd:complexContent>
2356     </xsd:complexType>
2357 </xsd:element>
2358 <xsd:element name="postalCode">
2359     <xsd:complexType mixed="true">
2360     <xsd:complexContent mixed="true">
2361     <xsd:restriction base="ADXP">
2362     <xsd:attribute name="partType" type="cs_AddressPartType" fixed="ZIP"/>
2363     </xsd:restriction>
2364     </xsd:complexContent>
2365     </xsd:complexType>
2366 </xsd:element>
2367 <xsd:element name="streetAddressLine">
2368     <xsd:complexType mixed="true">
2369     <xsd:complexContent mixed="true">
2370     <xsd:restriction base="ADXP">
2371     <xsd:attribute name="partType" type="cs_AddressPartType"
2372 fixed="SAL"/>
2373     </xsd:restriction>
2374     </xsd:complexContent>
2375     </xsd:complexType>
2376 </xsd:element>
2377 <xsd:element name="houseNumber">
```

```
2378         <xsd:complexType mixed="true">
2379             <xsd:complexContent mixed="true">
2380                 <xsd:restriction base="ADXP">
2381                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="BNR"/>
2382                 </xsd:restriction>
2383             </xsd:complexContent>
2384         </xsd:complexType>
2385     </xsd:element>
2386     <xsd:element name="houseNumberNumeric">
2387         <xsd:complexType mixed="true">
2388             <xsd:complexContent mixed="true">
2389                 <xsd:restriction base="ADXP">
2390                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="BNN"/>
2391                 </xsd:restriction>
2392             </xsd:complexContent>
2393         </xsd:complexType>
2394     </xsd:element>
2395     <xsd:element name="direction">
2396         <xsd:complexType mixed="true">
2397             <xsd:complexContent mixed="true">
2398                 <xsd:restriction base="ADXP">
2399                     <xsd:attribute name="partType" type="cs_AddressPartType" fixed="DIR"/>
2400                 </xsd:restriction>
2401             </xsd:complexContent>
2402         </xsd:complexType>
2403     </xsd:element>
2404     <xsd:element name="streetName">
2405         <xsd:complexType mixed="true">
2406             <xsd:complexContent mixed="true">
2407                 <xsd:restriction base="ADXP">
2408                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="STR"/>
2409                 </xsd:restriction>
2410             </xsd:complexContent>
2411         </xsd:complexType>
2412     </xsd:element>
2413     <xsd:element name="streetNameBase">
2414         <xsd:complexType mixed="true">
2415             <xsd:complexContent mixed="true">
2416                 <xsd:restriction base="ADXP">
2417                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="STB"/>
2418                 </xsd:restriction>
2419             </xsd:complexContent>
2420         </xsd:complexType>
2421     </xsd:element>
2422     <xsd:element name="streetNameType">
2423         <xsd:complexType mixed="true">
2424             <xsd:complexContent mixed="true">
2425                 <xsd:restriction base="ADXP">
2426                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="STTYP"/>
2427                 </xsd:restriction>
2428             </xsd:complexContent>
2429         </xsd:complexType>
2430     </xsd:element>
2431     <xsd:element name="additionalLocator">
2432         <xsd:complexType mixed="true">
2433             <xsd:complexContent mixed="true">
2434                 <xsd:restriction base="ADXP">
2435                     <xsd:attribute name="partType" type="cs_AddressPartType"
fixed="ADL"/>
2436                 </xsd:restriction>
2437             </xsd:complexContent>
2438         </xsd:complexType>
2439     </xsd:element>
```

```
2444         </xsd:complexType>
2445     </xsd:element>
2446     <xsd:element name="unitID">
2447         <xsd:complexType mixed="true">
2448             <xsd:complexContent mixed="true">
2449                 <xsd:restriction base="ADXP">
2450                     <xsd:attribute name="partType" type="cs_AddressPartType"
2451 fixed="UNID"/>
2452                 </xsd:restriction>
2453             </xsd:complexContent>
2454         </xsd:complexType>
2455     </xsd:element>
2456     <xsd:element name="unitType">
2457         <xsd:complexType mixed="true">
2458             <xsd:complexContent mixed="true">
2459                 <xsd:restriction base="ADXP">
2460                     <xsd:attribute name="partType" type="cs_AddressPartType"
2461 fixed="UNIT"/>
2462                 </xsd:restriction>
2463             </xsd:complexContent>
2464         </xsd:complexType>
2465     </xsd:element>
2466     <xsd:element name="carrier">
2467         <xsd:complexType mixed="true">
2468             <xsd:complexContent mixed="true">
2469                 <xsd:restriction base="ADXP">
2470                     <xsd:attribute name="partType" type="cs_AddressPartType"
2471 fixed="CAR"/>
2472                 </xsd:restriction>
2473             </xsd:complexContent>
2474         </xsd:complexType>
2475     </xsd:element>
2476     <xsd:element name="censusTract">
2477         <xsd:complexType mixed="true">
2478             <xsd:complexContent mixed="true">
2479                 <xsd:restriction base="ADXP">
2480                     <xsd:attribute name="partType" type="cs_AddressPartType"
2481 fixed="CEN"/>
2482                 </xsd:restriction>
2483             </xsd:complexContent>
2484         </xsd:complexType>
2485     <!-- VOTE: negativ minor: this will not be interoperable because
2486 there are many census tract definitions. Needs to be coded. This
2487 should be a location specification (Place class). -->
2488     </xsd:element>
2489     <!-- This was supposed to be the generic part. The formally
2490 correct schema way of doing that would involve defining
2491 all the special part elements as substitution group
2492 members for part. But that entails global elements
2493 is unsafe scoping. So, we don't get into that here.
2494
2495     xsd:element name='part' type='ADXP' -->
2496     <!--
2497     jaxb implementors note: the jaxb code generator (v1.0.?) will fail to
2498     append "Type" to streetNameType so that there will be duplicate
2499     definitions in the java source for streetNameType. You will have
2500     to fix this manually.
2501     -->
2502     </xsd:choice>
2503     <xsd:element name="useablePeriod" type="SXCM_TS" minOccurs="0"
2504 maxOccurs="unbounded">
2505         <xsd:annotation>
2506             <xsd:documentation>
2507 A General Timing Specification (GTS) specifying the periods of
2508 time during which the address can be used. This is used to specify
2509 different addresses for different times of the year or to refer to
```



historical addresses.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
  <!-- FIXME: one would expect the name "GTS" here but it's not
SXCM does ALL the right things, it's just not the right NAME. -->
  </xsd:element>
</xsd:sequence>
<xsd:attribute name="use" type="set_cs_PostalAddressUse" use="optional">
  <xsd:annotation>
    <xsd:documentation>
```

A set of codes advising a system or user which address in a set of like addresses to select for a given purpose.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="isNotOrdered" type="bl" use="optional">
  <xsd:annotation>
    <xsd:documentation>
```

A boolean value specifying whether the order of the address parts is known or not. While the address parts are always a Sequence, the order in which they are presented may or may not be known. Where this matters, the isNotOrdered property can be used to convey this information.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:attribute>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="cs_EntityNamePartQualifier">
  <xsd:restriction base="cs">
    <xsd:enumeration value="BR"/>
    <xsd:enumeration value="SP"/>
    <xsd:enumeration value="VV"/>
    <xsd:enumeration value="AC"/>
    <xsd:enumeration value="PR"/>
    <xsd:enumeration value="NB"/>
    <xsd:enumeration value="LS"/>
    <xsd:enumeration value="CL"/>
    <xsd:enumeration value="IN"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="ENXP" mixed="true">
  <xsd:annotation>
    <xsd:documentation>
```

A character string token representing a part of a name. May have a type code signifying the role of the part in the whole entity name, and a qualifier code for more detail about the name part type. Typical name parts for person names are given names, and family names, titles, etc.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
<xsd:complexContent mixed="true">
  <xsd:extension base="ST">
    <xsd:attribute name="partType" type="cs_EntityNamePartType">
      <xsd:annotation>
        <xsd:documentation>
```

Indicates whether the name part is a given name, family name, prefix, suffix, etc.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:attribute>
```

```
2576         <xsd:attribute name="qualifier" type="set_cs_EntityNamePartQualifier" use="optional">
2577             <xsd:annotation>
2578                 <xsd:documentation>
2579                     The qualifier is a set of codes each of which specifies a certain
2580                     subcategory of the name part in addition to the main name part type.
2581                     For example, a given name may be flagged as a nickname, a family name
2582                     may be a pseudonym or a name of public records.
2583                 </xsd:documentation>
2584             </xsd:annotation>
2585         </xsd:attribute>
2586     </xsd:extension>
2587 </xsd:complexType>
2588 </xsd:complexType>
2589 <xsd:simpleType name="cs_EntityNamePartType">
2590     <xsd:restriction base="cs">
2591         <xsd:enumeration value="FAM"/>
2592         <xsd:enumeration value="GIV"/>
2593         <xsd:enumeration value="PFX"/>
2594         <xsd:enumeration value="SFX"/>
2595         <xsd:enumeration value="DEL"/>
2596     </xsd:restriction>
2597 </xsd:simpleType>
2598 <xsd:complexType name="en.delimiter" mixed="true">
2599     <xsd:complexContent mixed="true">
2600         <xsd:restriction base="ENXP">
2601             <xsd:attribute name="partType" type="cs_EntityNamePartType" fixed="DEL"/>
2602         </xsd:restriction>
2603     </xsd:complexContent>
2604 </xsd:complexType>
2605 <xsd:complexType name="en.family" mixed="true">
2606     <xsd:complexContent mixed="true">
2607         <xsd:restriction base="ENXP">
2608             <xsd:attribute name="partType" type="cs_EntityNamePartType" fixed="FAM"/>
2609         </xsd:restriction>
2610     </xsd:complexContent>
2611 </xsd:complexType>
2612 <xsd:complexType name="en.given" mixed="true">
2613     <xsd:complexContent mixed="true">
2614         <xsd:restriction base="ENXP">
2615             <xsd:attribute name="partType" type="cs_EntityNamePartType" fixed="GIV"/>
2616         </xsd:restriction>
2617     </xsd:complexContent>
2618 </xsd:complexType>
2619 <xsd:complexType name="en.prefix" mixed="true">
2620     <xsd:complexContent mixed="true">
2621         <xsd:restriction base="ENXP">
2622             <xsd:attribute name="partType" type="cs_EntityNamePartType" fixed="PFX"/>
2623         </xsd:restriction>
2624     </xsd:complexContent>
2625 </xsd:complexType>
2626 <xsd:complexType name="en.suffix" mixed="true">
2627     <xsd:complexContent mixed="true">
2628         <xsd:restriction base="ENXP">
2629             <xsd:attribute name="partType" type="cs_EntityNamePartType" fixed="SFX"/>
2630         </xsd:restriction>
2631     </xsd:complexContent>
2632 </xsd:complexType>
2633 </xsd:complexType>
2634 <xsd:simpleType name="cs_EntityNameUse">
2635     <xsd:restriction base="cs">
2636         <xsd:enumeration value="L"/>
2637         <xsd:enumeration value="A"/>
2638         <xsd:enumeration value="I"/>
2639         <xsd:enumeration value="R"/>
2640         <xsd:enumeration value="ABC"/>
2641         <xsd:enumeration value="SYL"/>

```



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The quantity data type is an abstract generalization for all data types (1) whose value set has an order relation (less-or-equal) and (2) where difference is defined in all of the data type's totally ordered value subsets. The quantity type abstraction is needed in defining certain other types, such as the interval and the probability distribution.

```
</xsd:documentation>
  <xsd:appinfo>
    <diff>QTY</diff>
  </xsd:appinfo>
</xsd:annotation>
<xsd:complexContent>
  <xsd:extension base="ANY"/>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="int">
  <xsd:annotation>
    <xsd:documentation>
```

Integer numbers (-1,0,1,2, 100, 3398129, etc.) are precise numbers that are results of counting and enumerating. Integer numbers are discrete, the set of integers is infinite but countable. No arbitrary limit is imposed on the range of integer numbers. Two NULL flavors are defined for the positive and negative infinity.

```
</xsd:documentation>
  <xsd:appinfo/>
</xsd:annotation>
  <xsd:restriction base="xsd:integer"/>
</xsd:simpleType>
<xsd:complexType name="INT">
  <xsd:annotation>
    <xsd:documentation>
```

Integer numbers (-1,0,1,2, 100, 3398129, etc.) are precise numbers that are results of counting and enumerating. Integer numbers are discrete, the set of integers is infinite but countable. No arbitrary limit is imposed on the range of integer numbers. Two NULL flavors are defined for the positive and negative infinity.

```
</xsd:documentation>
  <xsd:appinfo>
    <diff>INT</diff>
    <sch:pattern name="validate INT">
      <sch:rule abstract="true" id="rule-INT">
        <sch:report test="(@value or @nullFlavor) and not(@value and @nullFlavor)">
          <p>
```

Although the use of the value is optional, the constraint (expressed as an XPath predicate), specifies that there must be either an value or the , but not both.

```
</p>
        </sch:report>
      </sch:rule>
    </sch:pattern>
  </xsd:appinfo>
</xsd:annotation>
<xsd:complexContent>
  <xsd:extension base="QTY">
    <xsd:attribute name="value" type="int" use="optional"/>
  </xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="real">
  <xsd:annotation>
    <xsd:documentation>
```

Fractional numbers. Typically used whenever quantities are measured, estimated, or computed from other real numbers. The typical representation is decimal, where the number of significant decimal digits is known as the precision.

Real numbers are needed beyond integers whenever quantities of the real world are measured, estimated, or computed from other real numbers. The term "Real number" in this specification is used to mean that fractional values are covered without necessarily implying the full set of the mathematical real numbers.

```
</xsd:documentation>
  <xsd:appinfo/>
  <xsd:annotation>
    <xsd:union memberTypes="xsd:decimal xsd:double"/>
  </xsd:simpleType>
  <xsd:complexType name="REAL">
    <xsd:annotation>
      <xsd:documentation>
```

Fractional numbers. Typically used whenever quantities are measured, estimated, or computed from other real numbers. The typical representation is decimal, where the number of significant decimal digits is known as the precision.

Real numbers are needed beyond integers whenever quantities of the real world are measured, estimated, or computed from other real numbers. The term "Real number" in this specification is used to mean that fractional values are covered without necessarily implying the full set of the mathematical real numbers.

```
</xsd:documentation>
  <xsd:appinfo>
    <diff>REAL</diff>
    <sch:pattern name="validate REAL">
      <sch:rule abstract="true" id="rule-REAL">
        <sch:report test="(@nullFlavor or @value) and not(@nullFlavor and @value)">
          <p>
```

Although the use of the value is optional, the constraint (expressed as an XPath predicate), specifies that there must be either a value or the , but not both.

```
</p>
        </sch:report>
      </sch:rule>
    </sch:pattern>
  </xsd:appinfo>
</xsd:annotation>
<xsd:complexContent>
  <xsd:extension base="QTY">
    <xsd:attribute name="value" type="real" use="optional"/>
  </xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="PQR">
  <xsd:annotation>
    <xsd:documentation>
```

A representation of a physical quantity in a unit from any code system. Used to show alternative representation for a physical quantity.

```
</xsd:documentation>
  <xsd:appinfo/>
  <xsd:annotation>
    <xsd:complexContent>
      <xsd:extension base="CV">
        <xsd:attribute name="value" type="real" use="optional">
          <xsd:annotation>
            <xsd:documentation>
```

The magnitude of the measurement value in terms of the unit specified in the code.

```
</xsd:documentation>
  <xsd:appinfo/>
  </xsd:annotation>
```

```
2906         </xsd:attribute>
2907     </xsd:extension>
2908 </xsd:complexContent>
2909 </xsd:complexType>
2910 <xsd:complexType name="PQ">
2911     <xsd:annotation>
2912         <xsd:documentation>
2913             A dimensioned quantity expressing the result of a measurement act.
2914         </xsd:documentation>
2915         <xsd:appinfo>
2916             <diff>PQ</diff>
2917         </xsd:appinfo>
2918     </xsd:annotation>
2919 <xsd:complexContent>
2920     <xsd:extension base="QTY">
2921         <xsd:sequence>
2922             <xsd:element name="translation" type="PQR" minOccurs="0" maxOccurs="unbounded">
2923                 <xsd:annotation>
2924                     <xsd:documentation>
2925                         An alternative representation of the same physical quantity expressed
2926                         in a different unit, of a different unit code system and possibly with
2927                         a different value.
2928                     </xsd:documentation>
2929                 </xsd:annotation>
2930             </xsd:element>
2931         </xsd:sequence>
2932         <xsd:attribute name="value" type="real" use="optional">
2933             <xsd:annotation>
2934                 <xsd:documentation>
2935                     The magnitude of the quantity measured in terms of the unit.
2936                 </xsd:documentation>
2937             </xsd:annotation>
2938         </xsd:attribute>
2939         <xsd:attribute name="unit" type="cs" use="optional" default="1">
2940             <xsd:annotation>
2941                 <xsd:documentation>
2942                     The unit of measure specified in the Unified Code for Units of Measure
2943                     (UCUM) [http://aurora.rg.iupui.edu/UCUM].
2944                 </xsd:documentation>
2945             </xsd:annotation>
2946         </xsd:attribute>
2947     </xsd:extension>
2948 </xsd:complexType>
2949 <xsd:complexType name="MO">
2950     <xsd:annotation>
2951         <xsd:documentation>
2952             A monetary amount is a quantity expressing the amount of money in some
2953             currency. Currencies are the units in which monetary amounts are
2954             denominated in different economic regions. While the monetary amount
2955             is a single kind of quantity (money) the exchange rates between the
2956             different units are variable. This is the principle difference
2957             between physical quantity and monetary amounts, and the reason why
2958             currency units are not physical units.
2959         </xsd:documentation>
2960     </xsd:annotation>
2961     <xsd:appinfo>
2962         <diff>MO</diff>
2963         <sch:pattern name="validate MO">
2964             <sch:rule abstract="true" id="rule-MO">
2965                 <sch:report test="not(@nullFlavor and (@value or @currency))"/>
2966             </sch:rule>
2967         </sch:pattern>
2968     </xsd:appinfo>
```

```
2972     </xsd:annotation>
2973     <xsd:complexContent>
2974       <xsd:extension base="QTY">
2975         <xsd:attribute name="value" type="real" use="optional">
2976           <xsd:annotation>
2977             <xsd:documentation>
2978               The magnitude of the monetary amount in terms of the currency unit.
2979             </xsd:documentation>
2980           </xsd:annotation>
2981         </xsd:attribute>
2982       </xsd:extension>
2983     </xsd:complexContent>
2984     <xsd:attribute name="currency" type="cs" use="optional">
2985       <xsd:annotation>
2986         <xsd:documentation>
2987           The currency unit as defined in ISO 4217.
2988         </xsd:documentation>
2989       </xsd:annotation>
2990     </xsd:attribute>
2991   </xsd:extension>
2992 </xsd:complexType>
2993 </xsd:complexType>
2994 <xsd:complexType name="RTO">
2995   <xsd:annotation>
2996     <xsd:documentation>
2997       A quantity constructed as the quotient of a numerator quantity divided
2998       by a denominator quantity. Common factors in the numerator and
2999       denominator are not automatically cancelled out. The data
3000       type supports titers (e.g., "1:128") and other quantities produced by
3001       laboratories that truly represent ratios. Ratios are not simply
3002       "structured numerics", particularly blood pressure measurements
3003       (e.g. "120/60") are not ratios. In many cases the
3004       REAL should be used instead of the
3005       .
3006     </xsd:documentation>
3007   </xsd:annotation>
3008   <xsd:complexContent>
3009     <xsd:extension base="RTO_QTY_QTY"/>
3010   </xsd:complexContent>
3011 </xsd:complexType>
3012 <xsd:simpleType name="cs_SetOperator">
3013   <xsd:restriction base="cs">
3014     <xsd:enumeration value="I"/>
3015     <xsd:enumeration value="E"/>
3016     <xsd:enumeration value="A"/>
3017     <xsd:enumeration value="H"/>
3018     <xsd:enumeration value="P"/>
3019   </xsd:restriction>
3020 </xsd:simpleType>
3021 <!-- <xsd:annotation>
3022   <xsd:appinfo>
3023     <xsd:pattern name="validate IVL_TS">
3024       <xsd:rule abstract="true" id="rule-IVL_TS">
3025         <xsd:report test="count(child::low|child::high|child::mid|child::width)>2">
3026           <p>No more than two of the four components (low, high, mid, width) may be populated at one
3027           time</p>
3028         </xsd:report>
3029       </xsd:rule>
3030     </xsd:pattern>
3031   </xsd:appinfo>
3032 </xsd:annotation -->
3033 <xsd:simpleType name="cs_CalendarCycle">
3034   <xsd:restriction base="cs">
3035     <xsd:enumeration value="CY"/>
3036     <xsd:enumeration value="MY"/>
3037   </xsd:restriction>

```



```
3038     <xsd:enumeration value="CM"/>
3039     <xsd:enumeration value="CW"/>
3040     <xsd:enumeration value="WY"/>
3041     <xsd:enumeration value="DM"/>
3042     <xsd:enumeration value="CD"/>
3043     <xsd:enumeration value="DY"/>
3044     <xsd:enumeration value="DW"/>
3045     <xsd:enumeration value="HD"/>
3046     <xsd:enumeration value="CH"/>
3047     <xsd:enumeration value="NH"/>
3048     <xsd:enumeration value="CN"/>
3049     <xsd:enumeration value="SN"/>
3050     <xsd:enumeration value="CS"/>
3051   </xsd:restriction>
3052 </xsd:simpleType>
3053 <xsd:simpleType name="cs_TimingEvent">
3054   <xsd:restriction base="cs">
3055     <xsd:enumeration value="AC"/>
3056     <xsd:enumeration value="ACD"/>
3057     <xsd:enumeration value="ACM"/>
3058     <xsd:enumeration value="ACV"/>
3059     <xsd:enumeration value="HS"/>
3060     <xsd:enumeration value="IC"/>
3061     <xsd:enumeration value="ICD"/>
3062     <xsd:enumeration value="ICM"/>
3063     <xsd:enumeration value="ICV"/>
3064     <xsd:enumeration value="PC"/>
3065     <xsd:enumeration value="PCD"/>
3066     <xsd:enumeration value="PCM"/>
3067     <xsd:enumeration value="PCV"/>
3068   </xsd:restriction>
3069 </xsd:simpleType>
3070 <xsd:simpleType name="cs_ProbabilityDistributionType">
3071   <xsd:restriction base="cs">
3072     <xsd:enumeration value="U"/>
3073     <xsd:enumeration value="N"/>
3074     <xsd:enumeration value="LN"/>
3075     <xsd:enumeration value="G"/>
3076     <xsd:enumeration value="E"/>
3077     <xsd:enumeration value="X2"/>
3078     <xsd:enumeration value="T"/>
3079     <xsd:enumeration value="F"/>
3080     <xsd:enumeration value="B"/>
3081   </xsd:restriction>
3082 </xsd:simpleType>
3083 <!--
3084 Instantiated templates
3085 -->
3086 <xsd:complexType name="SXCM_TS">
3087   <xsd:complexContent>
3088     <xsd:extension base="TS">
3089       <xsd:attribute name="operator" type="cs_SetOperator" use="optional" default="I">
3090         <xsd:annotation>
3091           <xsd:documentation>
3092             A code specifying whether the set component is included (union) or
3093             excluded (set-difference) from the set, or other set operations with
3094             the current set component and the set as constructed from the
3095             representation stream up to the current point.
3096           </xsd:documentation>
3097           <xsd:appinfo/>
3098         </xsd:annotation>
3099       </xsd:attribute>
3100     </xsd:extension>
3101   </xsd:complexContent>
3102 </xsd:complexType>
3103 <xsd:simpleType name="set_cs_TelecommunicationAddressUse">
```

```
3104     <xsd:list itemType="cs_TelecommunicationAddressUse"/>
3105   </xsd:simpleType>
3106   <xsd:simpleType name="set_cs_PostalAddressUse">
3107     <xsd:list itemType="cs_PostalAddressUse"/>
3108   </xsd:simpleType>
3109   <xsd:simpleType name="set_cs_EntityNamePartQualifier">
3110     <xsd:list itemType="cs_EntityNamePartQualifier"/>
3111   </xsd:simpleType>
3112   <xsd:complexType name="IVL_TS">
3113     <xsd:complexContent>
3114       <xsd:extension base="SXCM_TS">
3115         <xsd:choice minOccurs="0">
3116           <xsd:sequence>
3117             <xsd:element name="low" type="IVXB_TS">
3118               <xsd:annotation>
3119                 <xsd:documentation>
3120                   The low limit of the interval.
3121                 </xsd:documentation>
3122               </xsd:annotation>
3123             </xsd:element>
3124             <xsd:choice minOccurs="0">
3125               <xsd:element name="width" type="PQ" minOccurs="0">
3126                 <xsd:annotation>
3127                   <xsd:documentation>
3128                     The difference between high and low boundary. The purpose of
3129                     distinguishing a width property is to handle all cases of incomplete
3130                     information symmetrically. In any interval representation only two of
3131                     the three properties high, low, and width need to be stated and the
3132                     third can be derived.
3133                   </xsd:documentation>
3134                 </xsd:annotation>
3135               </xsd:element>
3136               <xsd:annotation>
3137                 <xsd:documentation>
3138                   The difference between high and low boundary. The purpose of
3139                   distinguishing a width property is to handle all cases of incomplete
3140                   information symmetrically. In any interval representation only two of
3141                   the three properties high, low, and width need to be stated and the
3142                   third can be derived.
3143                 </xsd:documentation>
3144               </xsd:annotation>
3145             </xsd:choice>
3146           </xsd:sequence>
3147           <xsd:element name="high" type="IVXB_TS" minOccurs="0">
3148             <xsd:annotation>
3149               <xsd:documentation>
3150                 The high limit of the interval.
3151               </xsd:documentation>
3152             </xsd:annotation>
3153           </xsd:element>
3154         </xsd:choice>
3155       </xsd:extension>
3156     </xsd:complexContent>
3157   </xsd:complexType>
3158   <xsd:simpleType name="set_IVL_TS">
3159     <xsd:list itemType="IVL_TS"/>
3160   </xsd:simpleType>
3161   <xsd:simpleType name="set_cs_EntityNamePartQualifier">
3162     <xsd:list itemType="cs_EntityNamePartQualifier"/>
3163   </xsd:simpleType>
3164   <xsd:simpleType name="set_cs_PostalAddressUse">
3165     <xsd:list itemType="cs_PostalAddressUse"/>
3166   </xsd:simpleType>
3167   <xsd:simpleType name="set_cs_TelecommunicationAddressUse">
3168     <xsd:list itemType="cs_TelecommunicationAddressUse"/>
3169   </xsd:simpleType>
```



The high limit of the interval.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:sequence>
  <xsd:element name="center" type="TS">
    <xsd:annotation>
      <xsd:documentation>
```

The arithmetic mean of the interval (low plus high divided by 2). The purpose of distinguishing the center as a semantic property is for conversions of intervals from and to point values.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:element>
  <xsd:element name="width" type="PQ" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation>
```

The difference between high and low boundary. The purpose of distinguishing a width property is to handle all cases of incomplete information symmetrically. In any interval representation only two of the three properties high, low, and width need to be stated and the third can be derived.

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:choice>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="IVXB_TS">
  <xsd:complexContent>
    <xsd:extension base="TS">
      <xsd:attribute name="inclusive" type="bl" use="optional" default="true">
        <xsd:annotation>
          <xsd:documentation>
```

Specifies whether the limit is included in the interval (interval is closed) or excluded from the interval (interval is open).

```
</xsd:documentation>
    <xsd:appinfo/>
  </xsd:annotation>
</xsd:attribute>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="set_cs_EntityNameUse">
  <xsd:list itemType="cs_EntityNameUse"/>
</xsd:simpleType>
<xsd:complexType name="RTO_QTY_QTY">
  <xsd:annotation>
    <xsd:appinfo>
      <diff>RTO_QTY_QTY</diff>
    </xsd:appinfo>
  </xsd:annotation>
</xsd:complexContent>
  <xsd:extension base="QTY">
    <xsd:sequence>
      <xsd:element name="numerator">
        <xsd:annotation>
          <xsd:documentation>
```

The quantity that is being divided in the ratio. The default is the integer number 1 (one.)

```
3236 </xsd:documentation>
3237     <xsd:appinfo/>
3238   </xsd:annotation>
3239   <xsd:complexType>
3240     <xsd:complexContent>
3241       <xsd:extension base="QTY">
3242         <xsd:attribute name="value" default="1"/>
3243       </xsd:extension>
3244     </xsd:complexContent>
3245   </xsd:complexType>
3246 </xsd:element>
3247 <xsd:element name="denominator">
3248   <xsd:annotation>
3249     <xsd:documentation>
3250       The quantity that divides the numerator in the ratio. The default is
3251       the integer number 1 (one.) The denominator must not be zero.
3252     </xsd:documentation>
3253     <xsd:appinfo/>
3254   </xsd:annotation>
3255   <xsd:complexType>
3256     <xsd:complexContent>
3257       <xsd:extension base="QTY">
3258         <xsd:attribute name="value" default="1"/>
3259       </xsd:extension>
3260     </xsd:complexContent>
3261   </xsd:complexType>
3262 </xsd:element>
3263 </xsd:sequence>
3264 </xsd:extension>
3265 </xsd:complexContent>
3266 </xsd:complexType>
3267 <xsd:complexType name="PQ_inc">
3268   <xsd:sequence>
3269     <xsd:element name="translation" type="PQR" minOccurs="0" maxOccurs="unbounded"/>
3270   </xsd:sequence>
3271   <xsd:attribute name="value" type="real" use="optional"/>
3272   <xsd:attribute name="unit" type="cs" use="optional" default="1"/>
3273   <xsd:attribute name="originalValue" use="optional"/>
3274   <xsd:attribute name="originalUnit" use="optional"/>
3275   <xsd:attribute name="nullFlavor" type="cs_NullFlavor" use="optional"/>
3276   <xsd:attribute name="inclusive" type="bl" use="optional" default="true"/>
3277 </xsd:complexType>
3278 <xsd:complexType name="IVL_PQ">
3279   <xsd:choice minOccurs="0">
3280     <xsd:sequence>
3281       <xsd:element name="low" type="PQ_inc"/>
3282       <xsd:choice minOccurs="0">
3283         <xsd:element name="width" type="PQ"/>
3284         <xsd:element name="high" type="PQ_inc"/>
3285       </xsd:choice>
3286     </xsd:sequence>
3287     <xsd:element name="high" type="PQ_inc"/>
3288     <xsd:sequence>
3289       <xsd:element name="width" type="PQ"/>
3290       <xsd:element name="high" type="PQ_inc" minOccurs="0"/>
3291     </xsd:sequence>
3292     <xsd:sequence>
3293       <xsd:element name="center" type="PQ"/>
3294       <xsd:element name="width" type="PQ" minOccurs="0"/>
3295     </xsd:sequence>
3296   </xsd:choice>
3297   <xsd:attribute name="operator" type="cs_SetOperator" use="optional" default="1"/>
3298   <xsd:attribute name="nullFlavor" type="cs_NullFlavor" use="optional"/>
3299 </xsd:complexType>
3300 <xsd:complexType name="IVL_INT" mixed="true">
3301   <xsd:sequence>
```

```
3302     <xsd:element name="low" minOccurs="0">
3303         <xsd:complexType>
3304             <xsd:complexContent>
3305                 <xsd:extension base="INT">
3306                     <xsd:attribute name="inclusive" type="bl" use="optional" default="true"/>
3307                 </xsd:extension>
3308             </xsd:complexContent>
3309         </xsd:complexType>
3310     </xsd:element>
3311     <xsd:element name="center" minOccurs="0">
3312         <xsd:complexType>
3313             <xsd:complexContent>
3314                 <xsd:extension base="INT">
3315                     <xsd:attribute name="inclusive" type="bl" use="optional" default="true"/>
3316                 </xsd:extension>
3317             </xsd:complexContent>
3318         </xsd:complexType>
3319     </xsd:element>
3320     <xsd:element name="high" minOccurs="0">
3321         <xsd:complexType>
3322             <xsd:complexContent>
3323                 <xsd:extension base="INT">
3324                     <xsd:attribute name="inclusive" type="bl" use="optional" default="true"/>
3325                 </xsd:extension>
3326             </xsd:complexContent>
3327         </xsd:complexType>
3328     </xsd:element>
3329 </xsd:sequence>
3330 <xsd:attribute name="value" type="int" use="optional"/>
3331 <xsd:attribute name="nullFlavor" type="cs_NullFlavor" use="optional"/>
3332 </xsd:complexType>
3333 <xsd:complexType name="PIVL_TS" mixed="true">
3334     <xsd:complexContent mixed="true">
3335         <xsd:extension base="SXCM_TS">
3336             <xsd:sequence>
3337                 <xsd:element name="phase" type="IVL_TS" minOccurs="0"/>
3338                 <xsd:element name="period" type="PQ" minOccurs="0"/>
3339             </xsd:sequence>
3340             <xsd:attribute name="alignment" type="cs_CalendarCycle" use="optional"/>
3341             <xsd:attribute name="institutionSpecified" type="bl" use="optional" default="false"/>
3342         </xsd:extension>
3343     </xsd:complexContent>
3344 </xsd:complexType>
3345 <xsd:complexType name="RTO_PQ_PQ" mixed="true">
3346     <xsd:sequence>
3347         <xsd:element name="numerator">
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3349                 <xsd:attribute name="value" type="real" use="optional"/>
3350                 <xsd:attribute name="unit" type="cs" use="optional" default="1"/>
3351             </xsd:complexType>
3352         </xsd:element>
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3357             </xsd:complexType>
3358         </xsd:element>
3359     </xsd:sequence>
3360     <xsd:attribute name="nullFlavor" type="cs_NullFlavor" use="optional"/>
3361 </xsd:complexType>
3362 </xsd:schema>
3363
3364
3365
```

## Vocabularies (voc.xsd)

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<xs:schema targetNamespace="urn:hl7-org:v3" xmlns:mifVoc="urn:hl7-org:v3/mif" xmlns="urn:hl7-org:v3"
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  </xs:simpleType>
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    <xs:restriction base="cs"/>
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    </xs:annotation>
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x_ActMoodDefEvnRqoPrmsPrp ActMoodCompletionTrack ActMoodPredicate x_ActMoodDocumentObservation
x_ActMoodEvnOrdPrmsPrp x_ActMoodOrdPrmsEvn x_ActMoodOrdPrms x_ActMoodIntentEvent"/>
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```

```
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3538 ActRelationshipSequel x_ActRelationshipDocument x_ActRelationshipExternalReference
3539 x_ActRelationshipPatientTransport"/>
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```



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3576     <xs:enumeration value="SUBJ"/>
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```

```
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```



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4511     </xs:simpleType>
4512     <xs:simpleType name="x_RoleClassCoverageInvoice_X">
4513         <xs:restriction base="cs">
4514             <xs:enumeration value="PAYOR"/>
4515             <xs:enumeration value="PAYEE"/>
4516         </xs:restriction>
4517     </xs:simpleType>
4518     <xs:simpleType name="x_RoleClassCoverageInvoice">
4519         <xs:annotation>
4520             <xs:documentation/>
4521         </xs:annotation>
4522         <xs:union memberTypes="x_RoleClassCoverageInvoice_X"/>
4523     </xs:simpleType>
4524     <xs:simpleType name="x_InformationRecipientRole_X">
4525         <xs:restriction base="cs">
4526             <xs:enumeration value="ASSIGNED"/>
4527             <xs:enumeration value="HLTHCHRT"/>
4528         </xs:restriction>
4529     </xs:simpleType>
4530     <xs:simpleType name="x_InformationRecipientRole">
4531         <xs:annotation>
4532             <xs:documentation/>
4533         </xs:annotation>
4534         <xs:union memberTypes="x_InformationRecipientRole_X"/>
4535     </xs:simpleType>
4536     <xs:simpleType name="x_RoleClassCredentialedEntity_X">
4537         <xs:restriction base="cs">
4538             <xs:enumeration value="ASSIGNED"/>
4539             <xs:enumeration value="QUAL"/>
4540         </xs:restriction>
4541     </xs:simpleType>
4542     <xs:simpleType name="x_RoleClassCredentialedEntity">
4543         <xs:annotation>
4544             <xs:documentation/>
4545         </xs:annotation>
4546         <xs:union memberTypes="x_RoleClassCredentialedEntity_X LicensedEntityRole"/>
4547     </xs:simpleType>
4548     <xs:simpleType name="RoleClassAssociative_X">
4549         <xs:restriction base="cs"/>
```

```
4550 </xs:simpleType>
4551 <xs:simpleType name="RoleClassAssociative">
4552   <xs:annotation>
4553     <xs:documentation/>
4554   </xs:annotation>
4555   <xs:union memberTypes="RoleClassAssociative_X RoleClassPassive RoleClassMutualRelationship"/>
4556 </xs:simpleType>
4557 <xs:simpleType name="RoleClassPassive_X">
4558   <xs:restriction base="cs">
4559     <xs:enumeration value="BIRTHPL"/>
4560     <xs:enumeration value="ACCESS"/>
4561     <xs:enumeration value="EXPR"/>
4562     <xs:enumeration value="HLTHCHRT"/>
4563     <xs:enumeration value="HLD"/>
4564     <xs:enumeration value="IDENT"/>
4565     <xs:enumeration value="MNT"/>
4566     <xs:enumeration value="OWN"/>
4567     <xs:enumeration value="RGPR"/>
4568     <xs:enumeration value="TERR"/>
4569     <xs:enumeration value="WRTE"/>
4570   </xs:restriction>
4571 </xs:simpleType>
4572 <xs:simpleType name="RoleClassPassive">
4573   <xs:annotation>
4574     <xs:documentation/>
4575   </xs:annotation>
4576   <xs:union memberTypes="RoleClassPassive_X RoleClassDistributedMaterial
4577 RoleClassManufacturedProduct RoleClassServiceDeliveryLocation"/>
4578 </xs:simpleType>
4579 <xs:simpleType name="RoleClassDistributedMaterial_X">
4580   <xs:restriction base="cs">
4581     <xs:enumeration value="RET"/>
4582   </xs:restriction>
4583 </xs:simpleType>
4584 <xs:simpleType name="RoleClassDistributedMaterial">
4585   <xs:annotation>
4586     <xs:documentation/>
4587   </xs:annotation>
4588   <xs:union memberTypes="RoleClassDistributedMaterial_X"/>
4589 </xs:simpleType>
4590 <xs:simpleType name="RoleClassManufacturedProduct_X">
4591   <xs:restriction base="cs">
4592     <xs:enumeration value="THER"/>
4593   </xs:restriction>
4594 </xs:simpleType>
4595 <xs:simpleType name="RoleClassManufacturedProduct">
4596   <xs:annotation>
4597     <xs:documentation/>
4598   </xs:annotation>
4599   <xs:union memberTypes="RoleClassManufacturedProduct_X"/>
4600 </xs:simpleType>
4601 <xs:simpleType name="RoleClassServiceDeliveryLocation_X">
4602   <xs:restriction base="cs">
4603     <xs:enumeration value="ISDLOC"/>
4604     <xs:enumeration value="DSDLOC"/>
4605   </xs:restriction>
4606 </xs:simpleType>
4607 <xs:simpleType name="RoleClassServiceDeliveryLocation">
4608   <xs:annotation>
4609     <xs:documentation/>
4610   </xs:annotation>
4611   <xs:union memberTypes="RoleClassServiceDeliveryLocation_X"/>
4612 </xs:simpleType>
4613 <xs:simpleType name="RoleClassMutualRelationship_X">
4614   <xs:restriction base="cs">
4615     <xs:enumeration value="PRS"/>
```



```
4616     </xs:restriction>
4617 </xs:simpleType>
4618 <xs:simpleType name="RoleClassMutualRelationship">
4619     <xs:annotation>
4620         <xs:documentation/>
4621     </xs:annotation>
4622     <xs:union memberTypes="RoleClassMutualRelationship_X RoleClassRelationshipFormal"/>
4623 </xs:simpleType>
4624 <xs:simpleType name="RoleClassRelationshipFormal_X">
4625     <xs:restriction base="cs">
4626         <xs:enumeration value="CIT"/>
4627         <xs:enumeration value="CRINV"/>
4628         <xs:enumeration value="CRSPNSR"/>
4629         <xs:enumeration value="COVPTY"/>
4630         <xs:enumeration value="GUAR"/>
4631         <xs:enumeration value="PAYOR"/>
4632         <xs:enumeration value="PAT"/>
4633         <xs:enumeration value="PAYEE"/>
4634         <xs:enumeration value="POLHOLD"/>
4635         <xs:enumeration value="QUAL"/>
4636         <xs:enumeration value="RESBJ"/>
4637         <xs:enumeration value="SPNSR"/>
4638         <xs:enumeration value="STD"/>
4639         <xs:enumeration value="UNDWRT"/>
4640     </xs:restriction>
4641 </xs:simpleType>
4642 <xs:simpleType name="RoleClassRelationshipFormal">
4643     <xs:annotation>
4644         <xs:documentation/>
4645     </xs:annotation>
4646     <xs:union memberTypes="RoleClassRelationshipFormal_X LicensedEntityRole RoleClassAgent
4647 RoleClassEmployee"/>
4648 </xs:simpleType>
4649 <xs:simpleType name="RoleClassEmployee_X">
4650     <xs:restriction base="cs">
4651         <xs:enumeration value="MIL"/>
4652     </xs:restriction>
4653 </xs:simpleType>
4654 <xs:simpleType name="RoleClassEmployee">
4655     <xs:annotation>
4656         <xs:documentation/>
4657     </xs:annotation>
4658     <xs:union memberTypes="RoleClassEmployee_X"/>
4659 </xs:simpleType>
4660 <xs:simpleType name="RoleClassAgent_X">
4661     <xs:restriction base="cs">
4662         <xs:enumeration value="GUARD"/>
4663     </xs:restriction>
4664 </xs:simpleType>
4665 <xs:simpleType name="RoleClassAgent">
4666     <xs:annotation>
4667         <xs:documentation/>
4668     </xs:annotation>
4669     <xs:union memberTypes="RoleClassAgent_X RoleClassAssignedEntity"/>
4670 </xs:simpleType>
4671 <xs:simpleType name="RoleClassAssignedEntity_X">
4672     <xs:restriction base="cs">
4673         <xs:enumeration value="SGNOFF"/>
4674     </xs:restriction>
4675 </xs:simpleType>
4676 <xs:simpleType name="RoleClassAssignedEntity">
4677     <xs:annotation>
4678         <xs:documentation/>
4679     </xs:annotation>
4680     <xs:union memberTypes="RoleClassAssignedEntity_X RoleClassContact"/>
4681 </xs:simpleType>
```

```
4682 <xs:simpleType name="RoleClassContact_X">
4683   <xs:restriction base="cs">
4684     <xs:enumeration value="ECON"/>
4685     <xs:enumeration value="NOK"/>
4686   </xs:restriction>
4687 </xs:simpleType>
4688 <xs:simpleType name="RoleClassContact">
4689   <xs:annotation>
4690     <xs:documentation/>
4691   </xs:annotation>
4692   <xs:union memberTypes="RoleClassContact_X"/>
4693 </xs:simpleType>
4694 <xs:simpleType name="LicensedEntityRole_X">
4695   <xs:restriction base="cs">
4696     <xs:enumeration value="DSDLOC"/>
4697     <xs:enumeration value="PROV"/>
4698     <xs:enumeration value="NOT"/>
4699   </xs:restriction>
4700 </xs:simpleType>
4701 <xs:simpleType name="LicensedEntityRole">
4702   <xs:annotation>
4703     <xs:documentation/>
4704   </xs:annotation>
4705   <xs:union memberTypes="LicensedEntityRole_X"/>
4706 </xs:simpleType>
4707 <xs:simpleType name="x_DocumentEntrySubject_X">
4708   <xs:restriction base="cs">
4709     <xs:enumeration value="PRS"/>
4710     <xs:enumeration value="SPEC"/>
4711     <xs:enumeration value="PAT"/>
4712   </xs:restriction>
4713 </xs:simpleType>
4714 <xs:simpleType name="x_DocumentEntrySubject">
4715   <xs:annotation>
4716     <xs:documentation/>
4717   </xs:annotation>
4718   <xs:union memberTypes="x_DocumentEntrySubject_X"/>
4719 </xs:simpleType>
4720 <xs:simpleType name="x_DocumentSubject_X">
4721   <xs:restriction base="cs">
4722     <xs:enumeration value="PRS"/>
4723     <xs:enumeration value="PAT"/>
4724   </xs:restriction>
4725 </xs:simpleType>
4726 <xs:simpleType name="x_DocumentSubject">
4727   <xs:annotation>
4728     <xs:documentation/>
4729   </xs:annotation>
4730   <xs:union memberTypes="x_DocumentSubject_X"/>
4731 </xs:simpleType>
4732 <xs:simpleType name="x_RoleClassAccommodationRequestor_X">
4733   <xs:restriction base="cs">
4734     <xs:enumeration value="PRS"/>
4735     <xs:enumeration value="AGNT"/>
4736     <xs:enumeration value="PROV"/>
4737     <xs:enumeration value="PAT"/>
4738   </xs:restriction>
4739 </xs:simpleType>
4740 <xs:simpleType name="x_RoleClassAccommodationRequestor">
4741   <xs:annotation>
4742     <xs:documentation/>
4743   </xs:annotation>
4744   <xs:union memberTypes="x_RoleClassAccommodationRequestor_X"/>
4745 </xs:simpleType>
4746 <xs:simpleType name="x_RoleClassPayeePolicyRelationship_X">
4747   <xs:restriction base="cs">
```



```
4748         <xs:enumeration value="PRS"/>
4749         <xs:enumeration value="COVPTY"/>
4750         <xs:enumeration value="POLHOLD"/>
4751         <xs:enumeration value="GUAR"/>
4752     </xs:restriction>
4753 </xs:simpleType>
4754 <xs:simpleType name="x_RoleClassPayeePolicyRelationship">
4755     <xs:annotation>
4756         <xs:documentation/>
4757     </xs:annotation>
4758     <xs:union memberTypes="x_RoleClassPayeePolicyRelationship_X"/>
4759 </xs:simpleType>
4760 <xs:simpleType name="RoleLinkType_X">
4761     <xs:restriction base="cs"/>
4762 </xs:simpleType>
4763 <xs:simpleType name="RoleLinkType">
4764     <xs:annotation>
4765         <xs:documentation/>
4766     </xs:annotation>
4767     <xs:union memberTypes="RoleLinkType_X"/>
4768 </xs:simpleType>
4769 <xs:simpleType name="RoleStatus_X">
4770     <xs:restriction base="cs">
4771         <xs:enumeration value="nullified"/>
4772     </xs:restriction>
4773 </xs:simpleType>
4774 <xs:simpleType name="RoleStatus">
4775     <xs:annotation>
4776         <xs:documentation/>
4777     </xs:annotation>
4778     <xs:union memberTypes="RoleStatus_X RoleStatusNormal"/>
4779 </xs:simpleType>
4780 <xs:simpleType name="RoleStatusNormal_X">
4781     <xs:restriction base="cs">
4782         <xs:enumeration value="terminated"/>
4783         <xs:enumeration value="suspended"/>
4784         <xs:enumeration value="active"/>
4785     </xs:restriction>
4786 </xs:simpleType>
4787 <xs:simpleType name="RoleStatusNormal">
4788     <xs:annotation>
4789         <xs:documentation/>
4790     </xs:annotation>
4791     <xs:union memberTypes="RoleStatusNormal_X"/>
4792 </xs:simpleType>
4793 <xs:simpleType name="EntityStatus_X">
4794     <xs:restriction base="cs">
4795         <xs:enumeration value="nullified"/>
4796     </xs:restriction>
4797 </xs:simpleType>
4798 <xs:simpleType name="EntityStatus">
4799     <xs:annotation>
4800         <xs:documentation/>
4801     </xs:annotation>
4802     <xs:union memberTypes="EntityStatus_X EntityStatusNormal"/>
4803 </xs:simpleType>
4804 <xs:simpleType name="EntityStatusNormal_X">
4805     <xs:restriction base="cs">
4806         <xs:enumeration value="terminated"/>
4807         <xs:enumeration value="active"/>
4808     </xs:restriction>
4809 </xs:simpleType>
4810 <xs:simpleType name="EntityStatusNormal">
4811     <xs:annotation>
4812         <xs:documentation/>
4813     </xs:annotation>
```

```
4814     <xs:union memberTypes="EntityStatusNormal_X"/>
4815 </xs:simpleType>
4816 <xs:simpleType name="ContextControl_X">
4817   <xs:restriction base="cs"/>
4818 </xs:simpleType>
4819 <xs:simpleType name="ContextControl">
4820   <xs:annotation>
4821     <xs:documentation/>
4822   </xs:annotation>
4823   <xs:union memberTypes="ContextControl_X ContextControlAdditive ContextControlOverriding
ContextControlPropagating ContextControlNonPropagating"/>
4824 </xs:simpleType>
4825 <xs:simpleType name="ContextControlAdditive_X">
4826   <xs:restriction base="cs">
4827     <xs:enumeration value="AN"/>
4828     <xs:enumeration value="AP"/>
4829   </xs:restriction>
4830 </xs:simpleType>
4831 <xs:simpleType name="ContextControlAdditive">
4832   <xs:annotation>
4833     <xs:documentation/>
4834   </xs:annotation>
4835   <xs:union memberTypes="ContextControlAdditive_X"/>
4836 </xs:simpleType>
4837 <xs:simpleType name="ContextControlOverriding_X">
4838   <xs:restriction base="cs">
4839     <xs:enumeration value="ON"/>
4840     <xs:enumeration value="OP"/>
4841   </xs:restriction>
4842 </xs:simpleType>
4843 <xs:simpleType name="ContextControlOverriding">
4844   <xs:annotation>
4845     <xs:documentation/>
4846   </xs:annotation>
4847   <xs:union memberTypes="ContextControlOverriding_X"/>
4848 </xs:simpleType>
4849 <xs:simpleType name="ContextControlPropagating_X">
4850   <xs:restriction base="cs">
4851     <xs:enumeration value="AP"/>
4852     <xs:enumeration value="OP"/>
4853   </xs:restriction>
4854 </xs:simpleType>
4855 <xs:simpleType name="ContextControlPropagating">
4856   <xs:annotation>
4857     <xs:documentation/>
4858   </xs:annotation>
4859   <xs:union memberTypes="ContextControlPropagating_X"/>
4860 </xs:simpleType>
4861 <xs:simpleType name="ContextControlNonPropagating_X">
4862   <xs:restriction base="cs">
4863     <xs:enumeration value="AN"/>
4864     <xs:enumeration value="ON"/>
4865   </xs:restriction>
4866 </xs:simpleType>
4867 <xs:simpleType name="ContextControlNonPropagating">
4868   <xs:annotation>
4869     <xs:documentation/>
4870   </xs:annotation>
4871   <xs:union memberTypes="ContextControlNonPropagating_X"/>
4872 </xs:simpleType>
4873 </xs:schema>
4874
4875
4876
```

## Narrative Block (CDANarrativeBlock.CommitteeBallot03.Aug.2004.xsd)

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSPY v2004 rel. 3 U (http://www.xmlspy.com) by Bob Dolin (HL7 CDA TC) -->
<!--W3C Schema generated by XMLSPY v2004 rel. 3 U (http://www.xmlspy.com)-->
<xs:schema targetNamespace="urn:hl7-org:v3" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="urn:hl7-
org:v3" elementFormDefault="qualified">
  <xs:import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="xml.xsd"/>
  <xs:complexType name="text" mixed="true">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element ref="content"/>
      <xs:element ref="link"/>
      <xs:element ref="sub"/>
      <xs:element ref="sup"/>
      <xs:element ref="br"/>
      <xs:element ref="renderMultiMedia"/>
      <xs:element ref="paragraph"/>
      <xs:element ref="list"/>
      <xs:element ref="table"/>
    </xs:choice>
  </xs:complexType>
  <xs:element name="br">
    <xs:complexType/>
  </xs:element>
  <xs:element name="caption">
    <xs:complexType mixed="true">
      <xs:sequence>
        <xs:element name="localCaptionCode" minOccurs="0"/>
        <xs:choice minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="link"/>
          <xs:element ref="sub"/>
          <xs:element ref="sup"/>
        </xs:choice>
      </xs:sequence>
      <xs:attribute name="ID" type="xs:ID"/>
      <xs:attribute ref="xml:lang"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="col">
    <xs:complexType>
      <xs:attribute name="ID" type="xs:ID"/>
      <xs:attribute ref="xml:lang"/>
      <xs:attribute name="span" type="xs:string" default="1"/>
      <xs:attribute name="width" type="xs:string"/>
      <xs:attribute name="align">
        <xs:simpleType>
          <xs:restriction base="xs:NMTOKEN">
            <xs:enumeration value="left"/>
            <xs:enumeration value="center"/>
            <xs:enumeration value="right"/>
            <xs:enumeration value="justify"/>
            <xs:enumeration value="char"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
      <xs:attribute name="char" type="xs:string"/>
      <xs:attribute name="charoff" type="xs:string"/>
      <xs:attribute name="valign">
        <xs:simpleType>
          <xs:restriction base="xs:NMTOKEN">
            <xs:enumeration value="top"/>
            <xs:enumeration value="middle"/>
            <xs:enumeration value="bottom"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
    </xs:complexType>
  </xs:element>

```

```
4939         <xs:enumeration value="baseline"/>
4940     </xs:restriction>
4941 </xs:simpleType>
4942 </xs:attribute>
4943 </xs:complexType>
4944 </xs:element>
4945 <xs:element name="colgroup">
4946     <xs:complexType>
4947         <xs:sequence minOccurs="0" maxOccurs="unbounded">
4948             <xs:element ref="col"/>
4949         </xs:sequence>
4950         <xs:attribute name="ID" type="xs:ID"/>
4951         <xs:attribute ref="xml:lang"/>
4952         <xs:attribute name="span" type="xs:string" default="1"/>
4953         <xs:attribute name="width" type="xs:string"/>
4954         <xs:attribute name="align">
4955             <xs:simpleType>
4956                 <xs:restriction base="xs:NMTOKEN">
4957                     <xs:enumeration value="left"/>
4958                     <xs:enumeration value="center"/>
4959                     <xs:enumeration value="right"/>
4960                     <xs:enumeration value="justify"/>
4961                     <xs:enumeration value="char"/>
4962                 </xs:restriction>
4963             </xs:simpleType>
4964         </xs:attribute>
4965         <xs:attribute name="char" type="xs:string"/>
4966         <xs:attribute name="charoff" type="xs:string"/>
4967         <xs:attribute name="valign">
4968             <xs:simpleType>
4969                 <xs:restriction base="xs:NMTOKEN">
4970                     <xs:enumeration value="top"/>
4971                     <xs:enumeration value="middle"/>
4972                     <xs:enumeration value="bottom"/>
4973                     <xs:enumeration value="baseline"/>
4974                 </xs:restriction>
4975             </xs:simpleType>
4976         </xs:attribute>
4977     </xs:complexType>
4978 </xs:element>
4979 <xs:element name="content">
4980     <xs:complexType mixed="true">
4981         <xs:choice minOccurs="0" maxOccurs="unbounded">
4982             <xs:element ref="content"/>
4983             <xs:element ref="link"/>
4984             <xs:element ref="sub"/>
4985             <xs:element ref="sup"/>
4986             <xs:element ref="br"/>
4987             <xs:element ref="renderMultiMedia"/>
4988         </xs:choice>
4989         <xs:attribute name="ID" type="xs:ID"/>
4990         <xs:attribute ref="xml:lang"/>
4991         <xs:attribute name="emphasis">
4992             <xs:simpleType>
4993                 <xs:restriction base="xs:NMTOKEN">
4994                     <xs:enumeration value="bold"/>
4995                     <xs:enumeration value="underline"/>
4996                     <xs:enumeration value="italics"/>
4997                     <xs:enumeration value="yes"/>
4998                 </xs:restriction>
4999             </xs:simpleType>
5000         </xs:attribute>
5001         <xs:attribute name="revised">
5002             <xs:simpleType>
5003                 <xs:restriction base="xs:NMTOKEN">
5004                     <xs:enumeration value="insert"/>
```

```
5005         <xs:enumeration value="delete"/>
5006     </xs:restriction>
5007 </xs:simpleType>
5008 </xs:attribute>
5009 </xs:complexType>
5010 </xs:element>
5011 <xs:element name="item">
5012     <xs:complexType mixed="true">
5013         <xs:sequence>
5014             <xs:element name="caption" minOccurs="0"/>
5015             <xs:choice minOccurs="0" maxOccurs="unbounded">
5016                 <xs:element ref="content"/>
5017                 <xs:element ref="link"/>
5018                 <xs:element ref="sub"/>
5019                 <xs:element ref="sup"/>
5020                 <xs:element ref="br"/>
5021                 <xs:element ref="renderMultiMedia"/>
5022                 <xs:element ref="paragraph"/>
5023                 <xs:element ref="list"/>
5024                 <xs:element ref="table"/>
5025             </xs:choice>
5026         </xs:sequence>
5027         <xs:attribute name="ID" type="xs:ID"/>
5028         <xs:attribute ref="xml:lang"/>
5029     </xs:complexType>
5030 </xs:element>
5031 <xs:element name="link">
5032     <xs:complexType>
5033         <xs:sequence>
5034             <xs:element ref="linkHtml"/>
5035         </xs:sequence>
5036         <xs:attribute name="ID" type="xs:ID"/>
5037         <xs:attribute ref="xml:lang"/>
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5039 </xs:element>
5040 <xs:element name="linkHtml">
5041     <xs:complexType>
5042         <xs:simpleContent>
5043             <xs:extension base="xs:string">
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5046                 <xs:attribute name="rel" type="xs:string"/>
5047                 <xs:attribute name="rev" type="xs:string"/>
5048                 <xs:attribute name="title" type="xs:string"/>
5049                 <xs:attribute name="ID" type="xs:ID"/>
5050                 <xs:attribute ref="xml:lang"/>
5051             </xs:extension>
5052         </xs:simpleContent>
5053     </xs:complexType>
5054 </xs:element>
5055 <xs:element name="list">
5056     <xs:complexType>
5057         <xs:sequence>
5058             <xs:element ref="caption" minOccurs="0"/>
5059             <xs:element ref="item" maxOccurs="unbounded"/>
5060         </xs:sequence>
5061         <xs:attribute name="ID" type="xs:ID"/>
5062         <xs:attribute ref="xml:lang"/>
5063         <xs:attribute name="listType" default="unordered">
5064             <xs:simpleType>
5065                 <xs:restriction base="xs:NMTOKEN">
5066                     <xs:enumeration value="ordered"/>
5067                     <xs:enumeration value="unordered"/>
5068                 </xs:restriction>
5069             </xs:simpleType>
5070         </xs:attribute>
```

```
5071     </xs:complexType>
5072 </xs:element>
5073 <xs:element name="localCaptionCode">
5074   <xs:complexType>
5075     <xs:attribute name="code" type="xs:string"/>
5076     <xs:attribute name="codeSystem" type="xs:string"/>
5077     <xs:attribute name="displayName" type="xs:string"/>
5078     <xs:attribute name="ID" type="xs:ID"/>
5079     <xs:attribute ref="xml:lang"/>
5080   </xs:complexType>
5081 </xs:element>
5082 <xs:element name="paragraph">
5083   <xs:complexType mixed="true">
5084     <xs:sequence>
5085       <xs:element name="caption" minOccurs="0"/>
5086       <xs:choice minOccurs="0" maxOccurs="unbounded">
5087         <xs:element ref="content"/>
5088         <xs:element ref="link"/>
5089         <xs:element ref="sub"/>
5090         <xs:element ref="sup"/>
5091         <xs:element ref="br"/>
5092         <xs:element ref="renderMultiMedia"/>
5093       </xs:choice>
5094     </xs:sequence>
5095     <xs:attribute name="ID" type="xs:ID"/>
5096     <xs:attribute ref="xml:lang"/>
5097   </xs:complexType>
5098 </xs:element>
5099 <xs:element name="renderMultiMedia">
5100   <xs:complexType>
5101     <xs:sequence>
5102       <xs:element ref="caption" minOccurs="0"/>
5103     </xs:sequence>
5104     <xs:attribute name="referencedObject" type="xs:IDREFS" use="required"/>
5105     <xs:attribute name="ID" type="xs:ID"/>
5106     <xs:attribute ref="xml:lang"/>
5107   </xs:complexType>
5108 </xs:element>
5109 <xs:element name="sub" type="xs:string"/>
5110 <xs:element name="sup" type="xs:string"/>
5111 <xs:element name="table">
5112   <xs:complexType>
5113     <xs:sequence>
5114       <xs:element ref="caption" minOccurs="0"/>
5115       <xs:choice>
5116         <xs:element ref="col" minOccurs="0" maxOccurs="unbounded"/>
5117         <xs:element ref="colgroup" minOccurs="0" maxOccurs="unbounded"/>
5118       </xs:choice>
5119       <xs:element ref="thead" minOccurs="0"/>
5120       <xs:element ref="tfoot" minOccurs="0"/>
5121       <xs:choice>
5122         <xs:element ref="tbody" maxOccurs="unbounded"/>
5123         <xs:element ref="tr" maxOccurs="unbounded"/>
5124       </xs:choice>
5125     </xs:sequence>
5126     <xs:attribute name="ID" type="xs:ID"/>
5127     <xs:attribute ref="xml:lang"/>
5128     <xs:attribute name="summary" type="xs:string"/>
5129     <xs:attribute name="width" type="xs:string"/>
5130     <xs:attribute name="border" type="xs:string"/>
5131     <xs:attribute name="frame">
5132       <xs:simpleType>
5133         <xs:restriction base="xs:NMTOKEN">
5134           <xs:enumeration value="void"/>
5135           <xs:enumeration value="above"/>
5136           <xs:enumeration value="below"/>
```



```
5137         <xs:enumeration value="hsides"/>
5138         <xs:enumeration value="lhs"/>
5139         <xs:enumeration value="rhs"/>
5140         <xs:enumeration value="vsides"/>
5141         <xs:enumeration value="box"/>
5142         <xs:enumeration value="border"/>
5143     </xs:restriction>
5144 </xs:simpleType>
5145 </xs:attribute>
5146 <xs:attribute name="rules">
5147     <xs:simpleType>
5148         <xs:restriction base="xs:NMTOKEN">
5149             <xs:enumeration value="none"/>
5150             <xs:enumeration value="groups"/>
5151             <xs:enumeration value="rows"/>
5152             <xs:enumeration value="cols"/>
5153             <xs:enumeration value="all"/>
5154         </xs:restriction>
5155     </xs:simpleType>
5156 </xs:attribute>
5157 <xs:attribute name="cellspacing" type="xs:string"/>
5158 <xs:attribute name="cellpadding" type="xs:string"/>
5159 </xs:complexType>
5160 </xs:element>
5161 <xs:element name="tbody">
5162     <xs:complexType>
5163         <xs:sequence maxOccurs="unbounded">
5164             <xs:element ref="tr"/>
5165         </xs:sequence>
5166         <xs:attribute name="ID" type="xs:ID"/>
5167         <xs:attribute ref="xml:lang"/>
5168         <xs:attribute name="align">
5169             <xs:simpleType>
5170                 <xs:restriction base="xs:NMTOKEN">
5171                     <xs:enumeration value="left"/>
5172                     <xs:enumeration value="center"/>
5173                     <xs:enumeration value="right"/>
5174                     <xs:enumeration value="justify"/>
5175                     <xs:enumeration value="char"/>
5176                 </xs:restriction>
5177             </xs:simpleType>
5178         </xs:attribute>
5179         <xs:attribute name="char" type="xs:string"/>
5180         <xs:attribute name="charoff" type="xs:string"/>
5181         <xs:attribute name="valign">
5182             <xs:simpleType>
5183                 <xs:restriction base="xs:NMTOKEN">
5184                     <xs:enumeration value="top"/>
5185                     <xs:enumeration value="middle"/>
5186                     <xs:enumeration value="bottom"/>
5187                     <xs:enumeration value="baseline"/>
5188                 </xs:restriction>
5189             </xs:simpleType>
5190         </xs:attribute>
5191     </xs:complexType>
5192 </xs:element>
5193 <xs:element name="td">
5194     <xs:complexType mixed="true">
5195         <xs:choice minOccurs="0" maxOccurs="unbounded">
5196             <xs:element ref="content"/>
5197             <xs:element ref="link"/>
5198             <xs:element ref="sub"/>
5199             <xs:element ref="sup"/>
5200             <xs:element ref="br"/>
5201             <xs:element ref="renderMultiMedia"/>
5202             <xs:element ref="paragraph"/>
```

```
5203     <xs:element ref="list"/>
5204   </xs:choice>
5205   <xs:attribute name="ID" type="xs:ID"/>
5206   <xs:attribute ref="xml:lang"/>
5207   <xs:attribute name="abbr" type="xs:string"/>
5208   <xs:attribute name="axis" type="xs:string"/>
5209   <xs:attribute name="headers" type="xs:IDREFS"/>
5210   <xs:attribute name="scope"/>
5211   <xs:simpleType>
5212     <xs:restriction base="xs:NMTOKEN">
5213       <xs:enumeration value="row"/>
5214       <xs:enumeration value="col"/>
5215       <xs:enumeration value="rowgroup"/>
5216       <xs:enumeration value="colgroup"/>
5217     </xs:restriction>
5218   </xs:simpleType>
5219 </xs:attribute>
5220 <xs:attribute name="rowspan" type="xs:string" default="1"/>
5221 <xs:attribute name="colspan" type="xs:string" default="1"/>
5222 <xs:attribute name="align">
5223   <xs:simpleType>
5224     <xs:restriction base="xs:NMTOKEN">
5225       <xs:enumeration value="left"/>
5226       <xs:enumeration value="center"/>
5227       <xs:enumeration value="right"/>
5228       <xs:enumeration value="justify"/>
5229       <xs:enumeration value="char"/>
5230     </xs:restriction>
5231   </xs:simpleType>
5232 </xs:attribute>
5233 <xs:attribute name="char" type="xs:string"/>
5234 <xs:attribute name="charoff" type="xs:string"/>
5235 <xs:attribute name="valign">
5236   <xs:simpleType>
5237     <xs:restriction base="xs:NMTOKEN">
5238       <xs:enumeration value="top"/>
5239       <xs:enumeration value="middle"/>
5240       <xs:enumeration value="bottom"/>
5241       <xs:enumeration value="baseline"/>
5242     </xs:restriction>
5243   </xs:simpleType>
5244 </xs:attribute>
5245 </xs:complexType>
5246 </xs:element>
5247 <xs:element name="text">
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5249     <xs:choice minOccurs="0" maxOccurs="unbounded">
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5251       <xs:element ref="link"/>
5252       <xs:element ref="sub"/>
5253       <xs:element ref="sup"/>
5254       <xs:element ref="br"/>
5255       <xs:element ref="renderMultiMedia"/>
5256       <xs:element ref="paragraph"/>
5257       <xs:element ref="list"/>
5258       <xs:element ref="table"/>
5259     </xs:choice>
5260   </xs:complexType>
5261 </xs:element>
5262 <xs:element name="tfoot">
5263   <xs:complexType>
5264     <xs:sequence maxOccurs="unbounded">
5265       <xs:element ref="tr"/>
5266     </xs:sequence>
5267     <xs:attribute name="ID" type="xs:ID"/>
5268     <xs:attribute ref="xml:lang"/>
```



```
5269     <xs:attribute name="align">
5270       <xs:simpleType>
5271         <xs:restriction base="xs:NMTOKEN">
5272           <xs:enumeration value="left"/>
5273           <xs:enumeration value="center"/>
5274           <xs:enumeration value="right"/>
5275           <xs:enumeration value="justify"/>
5276           <xs:enumeration value="char"/>
5277         </xs:restriction>
5278       </xs:simpleType>
5279     </xs:attribute>
5280     <xs:attribute name="char" type="xs:string"/>
5281     <xs:attribute name="charoff" type="xs:string"/>
5282     <xs:attribute name="valign">
5283       <xs:simpleType>
5284         <xs:restriction base="xs:NMTOKEN">
5285           <xs:enumeration value="top"/>
5286           <xs:enumeration value="middle"/>
5287           <xs:enumeration value="bottom"/>
5288           <xs:enumeration value="baseline"/>
5289         </xs:restriction>
5290       </xs:simpleType>
5291     </xs:attribute>
5292   </xs:complexType>
5293 </xs:element>
5294 <xs:element name="th">
5295   <xs:complexType mixed="true">
5296     <xs:choice minOccurs="0" maxOccurs="unbounded">
5297       <xs:element ref="link"/>
5298       <xs:element ref="sub"/>
5299       <xs:element ref="sup"/>
5300       <xs:element ref="localCaptionCode"/>
5301     </xs:choice>
5302     <xs:attribute name="ID" type="xs:ID"/>
5303     <xs:attribute ref="xml:lang"/>
5304     <xs:attribute name="abbr" type="xs:string"/>
5305     <xs:attribute name="axis" type="xs:string"/>
5306     <xs:attribute name="headers" type="xs:IDREFS"/>
5307     <xs:attribute name="scope">
5308       <xs:simpleType>
5309         <xs:restriction base="xs:NMTOKEN">
5310           <xs:enumeration value="row"/>
5311           <xs:enumeration value="col"/>
5312           <xs:enumeration value="rowgroup"/>
5313           <xs:enumeration value="colgroup"/>
5314         </xs:restriction>
5315       </xs:simpleType>
5316     </xs:attribute>
5317     <xs:attribute name="rowspan" type="xs:string" default="1"/>
5318     <xs:attribute name="colspan" type="xs:string" default="1"/>
5319     <xs:attribute name="align">
5320       <xs:simpleType>
5321         <xs:restriction base="xs:NMTOKEN">
5322           <xs:enumeration value="left"/>
5323           <xs:enumeration value="center"/>
5324           <xs:enumeration value="right"/>
5325           <xs:enumeration value="justify"/>
5326           <xs:enumeration value="char"/>
5327         </xs:restriction>
5328       </xs:simpleType>
5329     </xs:attribute>
5330     <xs:attribute name="char" type="xs:string"/>
5331     <xs:attribute name="charoff" type="xs:string"/>
5332     <xs:attribute name="valign">
5333       <xs:simpleType>
5334         <xs:restriction base="xs:NMTOKEN">
```

```
5335         <xs:enumeration value="top"/>
5336         <xs:enumeration value="middle"/>
5337         <xs:enumeration value="bottom"/>
5338         <xs:enumeration value="baseline"/>
5339     </xs:restriction>
5340 </xs:simpleType>
5341 </xs:attribute>
5342 </xs:complexType>
5343 </xs:element>
5344 <xs:element name="thead">
5345     <xs:complexType>
5346         <xs:sequence maxOccurs="unbounded">
5347             <xs:element ref="tr"/>
5348         </xs:sequence>
5349         <xs:attribute name="ID" type="xs:ID"/>
5350         <xs:attribute ref="xml:lang"/>
5351         <xs:attribute name="align">
5352             <xs:simpleType>
5353                 <xs:restriction base="xs:NMTOKEN">
5354                     <xs:enumeration value="left"/>
5355                     <xs:enumeration value="center"/>
5356                     <xs:enumeration value="right"/>
5357                     <xs:enumeration value="justify"/>
5358                     <xs:enumeration value="char"/>
5359                 </xs:restriction>
5360             </xs:simpleType>
5361         </xs:attribute>
5362         <xs:attribute name="char" type="xs:string"/>
5363         <xs:attribute name="charoff" type="xs:string"/>
5364         <xs:attribute name="valign">
5365             <xs:simpleType>
5366                 <xs:restriction base="xs:NMTOKEN">
5367                     <xs:enumeration value="top"/>
5368                     <xs:enumeration value="middle"/>
5369                     <xs:enumeration value="bottom"/>
5370                     <xs:enumeration value="baseline"/>
5371                 </xs:restriction>
5372             </xs:simpleType>
5373         </xs:attribute>
5374     </xs:complexType>
5375 </xs:element>
5376 <xs:element name="tr">
5377     <xs:complexType>
5378         <xs:choice maxOccurs="unbounded">
5379             <xs:element ref="th"/>
5380             <xs:element ref="td"/>
5381         </xs:choice>
5382         <xs:attribute name="ID" type="xs:ID"/>
5383         <xs:attribute ref="xml:lang"/>
5384         <xs:attribute name="align">
5385             <xs:simpleType>
5386                 <xs:restriction base="xs:NMTOKEN">
5387                     <xs:enumeration value="left"/>
5388                     <xs:enumeration value="center"/>
5389                     <xs:enumeration value="right"/>
5390                     <xs:enumeration value="justify"/>
5391                     <xs:enumeration value="char"/>
5392                 </xs:restriction>
5393             </xs:simpleType>
5394         </xs:attribute>
5395         <xs:attribute name="char" type="xs:string"/>
5396         <xs:attribute name="charoff" type="xs:string"/>
5397         <xs:attribute name="valign">
5398             <xs:simpleType>
5399                 <xs:restriction base="xs:NMTOKEN">
5400                     <xs:enumeration value="top"/>
```

```
5401         <xs:enumeration value="middle"/>
5402         <xs:enumeration value="bottom"/>
5403         <xs:enumeration value="baseline"/>
5404     </xs:restriction>
5405 </xs:simpleType>
5406 </xs:attribute>
5407 </xs:complexType>
5408 </xs:element>
5409 </xs:schema>
5410
5411
```

## Appendix C – Maximum XML Instance

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns="urn:hl7-org:v3" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:hl7-org:v3 ../Schemas/EMS_CDA_v8.xsd">
  <!--
*****
e-MS CDA Header
*****
-->
  <id extension="12345" root="2.16.840.1.113883.3.933"/>
  <code code="34140-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Referral"/>
  <title/>
  <effectiveTime value="20040809142222"/>
  <!--
*****
Record Target
*****
-->
  <recordTarget typeCode="RCT" contextControlCode="OP">
    <patientRole classCode="PAT">
      <id extension="9999999999" root="2BFBA1E9-79C2-4bbb-B589-41B949BD6A3B"
assigningAuthorityName="BC-PHN"/>
      <id extension="99999-9" assigningAuthorityName="WCB"/>
      <addr>
        <streetAddressLine>2222 Home Street</streetAddressLine>
        <city>Ann Arbor</city>
        <state>BC</state>
        <postalCode>A1B 2C3</postalCode>
        <country>CA</country>
      </addr>
      <telecom value="ph: (555) 555-2003" use="HP"/>
      <telecom value="email: Eve.Everywoman@eg.net" use="HP"/>
      <patientPatient>
        <name>
          <prefix>Mrs.</prefix>
          <given>Eve</given>
          <given>E.</given>
          <family>Everywoman</family>
          <suffix>Jr.</suffix>
        </name>
        <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"
codeSystemName="HL7 - Administrative Gender" displayName="Female"/>
        <birthTime value="19650516"/>
        <languageCommunication>
          <languageCode code="English"/>
        </languageCommunication>
      </patientPatient>
    </patientRole>
  </recordTarget>
  <!--
*****
Author
*****
-->
  <author>
    <time value="20040812120000"/>
    <assignedAuthor>
      <id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/>
      <addr>
        <streetAddressLine>4444 Healthcare Drive</streetAddressLine>
        <city>Ann Arbor</city>
```

```
5474         <state>BC</state>
5475         <postalCode>A1B 2C3</postalCode>
5476         <country>CA</country>
5477     </addr>
5478     <telecom value="tel:(555)555-1003" use="WP"/>
5479     <telecom value="fax:(555)555-1133" use="WP"/>
5480     <assignedAuthorChoice>
5481         <assignedPerson>
5482             <name>
5483                 <prefix>Dr.</prefix>
5484                 <given>Harold</given>
5485                 <given>H.</given>
5486                 <family>Hippocrates</family>
5487                 <suffix>the 1st</suffix>
5488             </name>
5489         </assignedPerson>
5490     </assignedAuthorChoice>
5491 </assignedAuthor>
5492 </author>
5493 <author>
5494     <time value="20040812120000"/>
5495     <assignedAuthor>
5496         <id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/>
5497         <assignedAuthorChoice>
5498             <assignedAuthoringDevice>
5499                 <softwareName>e-MS Web</softwareName>
5500             </assignedAuthoringDevice>
5501         </assignedAuthorChoice>
5502     </assignedAuthor>
5503 </author>
5504 <!--
5505 *****
5506 Custodian
5507 *****
5508 -->
5509     <custodian typeCode="CST">
5510         <assignedCustodian>
5511             <representedCustodianOrganization>
5512                 <id extension="123" root="7EEF0BCC-F03E-4742-A736-8BAC57180C5F"/>
5513                 <name>Level 7 Healthcare, Inc</name>
5514             </representedCustodianOrganization>
5515         </assignedCustodian>
5516     </custodian>
5517 <!--
5518 *****
5519 Information Recipient
5520 *****
5521 -->
5522     <informationRecipient typeCode="PRCP">
5523         <intendedRecipient classCode="ASSIGNED">
5524             <id extension="ppump" root="DCCD2C68-389B-44c4-AD99-B8FB2DAD1493"/>
5525         <addr>
5526             <streetAddressLine>4444 Healthcare Drive</streetAddressLine>
5527             <city>Ann Arbor</city>
5528             <state>BC</state>
5529             <postalCode>A1B 2C3</postalCode>
5530             <country>CA</country>
5531         </addr>
5532         <telecom value="tel: (555) 555-1009" use="WP"/>
5533         <telecom value="fax: (555) 555-1199" use="WP"/>
5534     </informationRecipient>
5535     <informationRecipientPerson>
5536         <name>
5537             <prefix>Dr.</prefix>
5538             <given>Patrick</given>
5539             <given>P.</given>
```

```
5540         <family>Pump</family>
5541         <suffix>Sr.</suffix>
5542     </name>
5543     </informationRecipientPerson>
5544 </informationRecipient>
5545 <receivedOrganization>
5546     <name>Level 7 Healthcare, Inc</name>
5547 </receivedOrganization>
5548 </intendedRecipient>
5549 </informationRecipient>
5550 <!--
5551 *****
5552 Participant - Contact
5553 *****
5554 -->
5555     <participant typeCode="NOT">
5556         <participatingEntity classCode="CON">
5557             <code code="HUSB" codeSystem="F05716F7-BA77-4641-A8D8-6E3948CCD321"
5558 codeSystemName="HL7 - PersonalRelationshipRoleType" displayName="Husband"/>
5559             <addr>
5560                 <streetAddressLine>2222 Home Street</streetAddressLine>
5561                 <city>Ann Arbor</city>
5562                 <state>BC</state>
5563                 <postalCode>A1B 2C3</postalCode>
5564                 <country>CA</country>
5565             </addr>
5566             <telecom value="tel:(555)555-5001" use="H"/>
5567             <telecom value="mailto:Neville.Nuclear@eg.net" use="H"/>
5568             <associatedPerson>
5569                 <name>
5570                     <prefix>Mr.</prefix>
5571                     <given>Neville</given>
5572                     <given>N.</given>
5573                     <family>Nuclear</family>
5574                     <suffix>III</suffix>
5575                 </name>
5576             </associatedPerson>
5577         </participatingEntity>
5578     </participant>
5579     <participant typeCode="NOT">
5580         <participatingEntity classCode="CON">
5581             <code code="NCHLD" codeSystem="F05716F7-BA77-4641-A8D8-6E3948CCD321"
5582 codeSystemName="PersonalRelationshipRoleType" displayName="Natural Child"/>
5583             <addr>
5584                 <streetAddressLine>6666 Home Street</streetAddressLine>
5585                 <city>Ann Arbor</city>
5586                 <state>BC</state>
5587                 <postalCode>A1B 2C3</postalCode>
5588                 <country>CA</country>
5589             </addr>
5590             <telecom value="tel:(555)555-5001" use="H"/>
5591             <telecom value="mailto:Nancy.Nuclear@eg.net" use="H"/>
5592             <associatedPerson>
5593                 <name>
5594                     <prefix>Ms.</prefix>
5595                     <given>Nancy</given>
5596                     <given>N.</given>
5597                     <family>Nuclear</family>
5598                     <suffix>Sr.</suffix>
5599                 </name>
5600             </associatedPerson>
5601         </participatingEntity>
5602     </participant>
5603 <!--
5604 *****
5605 e-MS CDA Structured Body
```

```
*****
-->
  <component>
    <bodyChoice>
      <StructuredBody>
        <!--
*****
Purpose
*****
-->
  <component>
    <section>
      <code code="001" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B"
codeSystemName="e-MS Document Section Codes" displayName="Purpose"/>
      <title>Referral Purpose</title>
      <text>
        <paragraph>
          Please see this patient regarding occasional occurrences of arrhythmia at rest
          accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain.
        </paragraph>
        <paragraph>
          Urgency: expedite
        </paragraph>
        <table border="1">
          <tbody>
            <tr>
              <th>Other Provider</th>
              <th>Reason</th>
            </tr>
            <tr>
              <td>Dr. Vera V. Valve at Level 7 Healthcare, Inc </td>
              <td>High blood pressure in the past</td>
            </tr>
            <tr>
              <td>Dr. Sara S. Specialize at Good Health Hospital</td>
              <td>24 Hour ECG recording</td>
            </tr>
          </tbody>
        </table>
        <paragraph>
          Comments: The patient expressed that this problem has gradually been getting
          worse over the course of the past year and a half.
        </paragraph>
      </text>
      <entry typeCode="DRIV">
        <entryChoice>
          <Observation moodCode="EVN">
            <code nullFlavor="NA"/>
            <text>Please see this patient regarding occasional occurrences of arrhythmia
            at rest accompanied with mild shortness of breath. Mild exercise leads to faintness and mild chest pain. </text>
            <priorityCode code="E" codeSystem="1261620F-C09D-4825-96E4-
E808DCFA4D17" codeSystemName="eMS_Purpose_Urgency" displayName="Expedite (call)"/>
            <value>The patient expressed that this problem has gradually been getting
            worse over the course of the past year and a half.</value>
            <participant1 typeCode="SPRF">
              <participantRole>
                <playingEntityChoice>
                  <playingPlayingEntity>
                    <name>Dr. Vera V. Valve at Level 7 Healthcare</name>
                    <desc>High blood pressure in the past</desc>
                  </playingPlayingEntity>
                </playingEntityChoice>
              </participantRole>
            </participant1>
            <participant1 typeCode="SPRF">
              <participantRole>
```

```
5672                                     <playingEntityChoice>
5673                                     <playingPlayingEntity>
5674                                     <name>Dr. Sara S. Specialize at Good Health
5675 Hospital</name>
5676                                     <desc>24 Hour ECG recording</desc>
5677                                     </playingPlayingEntity>
5678                                     </playingEntityChoice>
5679                                     </participantRole>
5680                                     </participant1>
5681                                     </Observation>
5682                                     </entryChoice>
5683                                     </entry>
5684                                     </section>
5685                                     </component>
5686                                     <!--
5687 *****
5688 Alerts
5689 *****
5690 -->
5691                                     <component>
5692                                     <section>
5693                                     <code code="002" codeSystem="7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B"
5694 codeSystemName="e-MS Document Section Codes" displayName="Alerts"/>
5695                                     <title>Alerts</title>
5696                                     <text>
5697                                     <table border="1">
5698                                     <tbody>
5699                                     <tr>
5700                                     <th>Alert</th>
5701                                     <th>Comments</th>
5702                                     <th>Date</th>
5703                                     </tr>
5704                                     <tr>
5705                                     <td>History of violence</td>
5706                                     <td>Mostly towards family members</td>
5707                                     <td>1999</td>
5708                                     </tr>
5709                                     <tr>
5710                                     <td>History of mental illness</td>
5711                                     <td>Mild anxiety disorder</td>
5712                                     <td>August 2000</td>
5713                                     </tr>
5714                                     </tbody>
5715                                     </table>
5716                                     </text>
5717                                     <entry typeCode="COMP">
5718                                     <entryChoice>
5719                                     <Observation moodCode="EVN">
5720                                     <code nullFlavor="NA"/>
5721                                     <text>History of violence</text>
5722                                     <effectiveTime value="1999"/>
5723                                     <value>Mostly towards family members</value>
5724                                     </Observation>
5725                                     </entryChoice>
5726                                     </entry>
5727                                     <entry typeCode="COMP">
5728                                     <entryChoice>
5729                                     <Observation moodCode="EVN">
5730                                     <code nullFlavor="NA"/>
5731                                     <text>History of mental illness</text>
5732                                     <effectiveTime value="200008"/>
5733                                     <value>Mild anxiety disorder</value>
5734                                     </Observation>
5735                                     </entryChoice>
5736                                     </entry>
5737                                     </section>
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5738         </component>
5739         <!--
5740         *****
5741         Social History/Risks
5742         *****
5743         -->
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5745         <section>
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5747             displayName="Social History/Risks"/>
5748             <title>Social History/Risks</title>
5749             <text>
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5754                             <th>Comments</th>
5755                             <th>Date</th>
5756                         </tr>
5757                         <tr>
5758                             <td>Smoking</td>
5759                             <td>2 packs of cigarettes per day in her early teens</td>
5760                             <td>1979-1982</td>
5761                         </tr>
5762                         <tr>
5763                             <td>Alcohol consumption</td>
5764                             <td>3 glasses of wine per day</td>
5765                             <td>January 2000</td>
5766                         </tr>
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5775                         <effectiveTime value="19790000000000.19820000000000"/>
5776                         <value>2 packs of cigarettes per day starting in her early teens.</value>
5777                     </Observation>
5778                 </entryChoice>
5779             </entry>
5780             <entry typeCode="COMP">
5781                 <entryChoice>
5782                     <Observation moodCode="EVN">
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5785                         <effectiveTime value="200001"/>
5786                         <value>3 glasses of wine per day.</value>
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5788                 </entryChoice>
5789             </entry>
5790         </section>
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5793         *****
5794         Examination Measurements
5795         *****
5796         -->
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5804      <tbody>
5805      <tr>
5806        <th/>
5807        <th>Height</th>
5808        <th>Weight</th>
5809        <th>Blood Pressure</th>
5810        <th>Pulse</th>
5811      </tr>
5812      <tr>
5813        <td>
5814          <content emphasis="bold">January 13, 2000</content>
5815        </td>
5816        <td>172 cm</td>
5817        <td>65 Kg</td>
5818        <td>130/80</td>
5819        <td>80 BPM</td>
5820      </tr>
5821      <tr>
5822        <td>
5823          <content emphasis="bold">March 18, 2001</content>
5824        </td>
5825        <td>172 cm</td>
5826        <td>70 Kg</td>
5827        <td>145/95</td>
5828        <td>90 BPM </td>
5829      </tr>
5830      <tr>
5831        <td>
5832          <content emphasis="bold">September 22, 2003</content>
5833        </td>
5834        <td>172 cm</td>
5835        <td>78 Kg</td>
5836        <td>160/110</td>
5837        <td>92 BPM</td>
5838      </tr>
5839      <tr>
5840        <td>
5841          <content emphasis="bold">August 9, 2004</content>
5842        </td>
5843        <td>172 cm </td>
5844        <td>80 Kg</td>
5845        <td>160/130</td>
5846        <td>94 BPM</td>
5847      </tr>
5848    </tbody>
5849  </table>
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5855       codeSystemName="LOINC" displayName="Height"/>
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5857       <value>172 cm</value>
5858     </Observation>
5859   </entryChoice>
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5862   <entryChoice>
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5865       codeSystemName="LOINC" displayName="Weight"/>
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5867       <value>65 kg</value>
5868     </Observation>
5869   </entryChoice>
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5876               <effectiveTime value="20000113"/>
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5881         <entry typeCode="COMP">
5882           <entryChoice>
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5885 0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
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5901         <entry typeCode="COMP">
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5909           </entryChoice>
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5917               <value>90 bpm</value>
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5919           </entryChoice>
5920         </entry>
5921         <entry typeCode="COMP">
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5925 0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
5926               <effectiveTime value="20010318"/>
5927               <value>145/95</value>
5928             </Observation>
5929           </entryChoice>
5930         </entry>
5931         <entry typeCode="COMP">
5932           <entryChoice>
5933             <Observation moodCode="EVN">
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5935 codeSystemName="LOINC" displayName="Height"/>
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5936         <effectiveTime value="20030922"/>
5937         <value>172 cm</value>
5938     </Observation>
5939 </entryChoice>
5940 </entry>
5941 <entry typeCode="COMP">
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5944             <code code="3141-9" codeSystem="2.16.840.1.113883.6.1"
5945 codeSystemName="LOINC" displayName="Weight"/>
5946             <effectiveTime value="20030922"/>
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5949     </entryChoice>
5950 </entry>
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5955 codeSystemName="LOINC" displayName="Pulse"/>
5956             <effectiveTime value="20030922"/>
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5958         </Observation>
5959     </entryChoice>
5960 </entry>
5961 <entry typeCode="COMP">
5962     <entryChoice>
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5965 0DF214D6845B" codeSystemName="e-MS Data Element Code" displayName="Blood Pressure"/>
5966             <effectiveTime value="20030922"/>
5967             <value>160/110</value>
5968         </Observation>
5969     </entryChoice>
5970 </entry>
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5972     <entryChoice>
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5976             <effectiveTime value="20040809"/>
5977             <value>172 cm</value>
5978         </Observation>
5979     </entryChoice>
5980 </entry>
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5989     </entryChoice>
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5995 codeSystemName="LOINC" displayName="Pulse"/>
5996             <effectiveTime value="20040809"/>
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5999     </entryChoice>
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6006                 <effectiveTime value="20040809"/>
6007                 <value>160/130</value>
6008             </Observation>
6009         </entryChoice>
6010     </entry>
6011 </section>
6012 </component>
6013 <!--
6014 *****
6015 Active Problem List
6016 *****
6017 -->
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6021 displayName="Active Problem List"/>
6022             <title>Active Problem List</title>
6023             <text>
6024                 <table border="1">
6025                     <tbody>
6026                         <tr>
6027                             <th>Active Problem</th>
6028                             <th>Description</th>
6029                             <th>Date</th>
6030                         </tr>
6031                         <tr>
6032                             <td>Hypertension </td>
6033                             <td>Continuing to increase in severity.</td>
6034                             <td>December 2002</td>
6035                         </tr>
6036                     </tbody>
6037                 </table>
6038             </text>
6039             <entry typeCode="COMP">
6040                 <entryChoice>
6041                     <Observation moodCode="EVN">
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6043 codeSystemName="ICD-9" displayName="Hypertension"/>
6044                         <effectiveTime value="200212"/>
6045                         <value>This is continuing to increase in severity.</value>
6046                     </Observation>
6047                 </entryChoice>
6048             </entry>
6049         </section>
6050     </component>
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6052 *****
6053 Current Medications
6054 *****
6055 -->
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6065                             <th>Medication Name</th>
6066                             <th>DIN</th>
6067                             <th>DIN Name</th>
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6068         <th>Dose</th>
6069         <th>Admin Route</th>
6070         <th>Frequency</th>
6071         <th>Repeats</th>
6072         <th>Effective Date</th>
6073     </tr>
6074     <tr>
6075         <td>Accupril 5 mg</td>
6076         <td>01947664</td>
6077         <td>Quinapril</td>
6078         <td>10 mg</td>
6079         <td>Orally</td>
6080         <td>2 per day</td>
6081         <td>2</td>
6082         <td>Jan 15, 2003</td>
6083     </tr>
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6085 </table>
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6093             </effectiveTime>
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6099                     <manufacturedDrugOrOtherMaterial>
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6101                             <code code="01947664" codeSystem="36F030E1-180A-4c53-
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6102                             <name>Accupril 5 mg.</name>
6103                         </manufacturedLabeledDrug>
6104                     </manufacturedDrugOrOtherMaterial>
6105                 </manufacturedProduct>
6106             </consumable>
6107         </SubstanceAdministration>
6108     </entryChoice>
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6112 <!--
6113 *****
6114 Medical History
6115 *****
6116 -->
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6128                             <th>Date</th>
6129                         </tr>
6130                         <tr>
6131                             <td>Meningitis</td>
```

```
6134         <td>No permanent effects.</td>
6135         <td>1975</td>
6136     </tr>
6137     <tr>
6138         <td>Closed fractured rib</td>
6139         <td>Patient is unsure of which rib it was.</td>
6140         <td>1994</td>
6141     </tr>
6142 </tbody>
6143 </table>
6144 </text>
6145 <entry typeCode="COMP">
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6150             <effectiveTime value="1975"/>
6151             <value>No permanent effects.</value>
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6155 <entry typeCode="COMP">
6156     <entryChoice>
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6158             <code code="807.01" codeSystem="2.16.840.1.113883.6.2"
6159 codeSystemName="ICD-9" displayName="closed fractured
6160 rib"/>
6161             <effectiveTime value="1994"/>
6162             <value>Patient is unsure of which rib it was.</value>
6163         </Observation>
6164     </entryChoice>
6165 </entry>
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6169 *****
6170 Surgical History
6171 *****
6172 -->
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6183                             <th>Date</th>
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6185                         <tr>
6186                             <td>Appendectomy</td>
6187                             <td>June 1970</td>
6188                         </tr>
6189                         <tr>
6190                             <td>Cholelithotomy</td>
6191                             <td>January 17, 2004</td>
6192                         </tr>
6193                     </tbody>
6194                 </table>
6195             </text>
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6197                 <entryChoice>
6198                     <Procedure moodCode="EVN">
6199                         <text>Appendectomy</text>
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6200         <effectiveTime value="197006"/>
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6202 </entryChoice>
6203 </entry>
6204 <entry typeCode="COMP">
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6206         <Procedure moodCode="EVN">
6207             <text>Cholelithotomy</text>
6208             <effectiveTime value="20040117"/>
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6210     </entryChoice>
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6212 </section>
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6214 <!--
6215 *****
6216 Medical Imaging History
6217 *****
6218 -->
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6229                         <th>Results</th>
6230                         <th>Date</th>
6231                     </tr>
6232                     <tr>
6233                         <td>Chest x-ray</td>
6234                         <td>Nothing unusual could be observed. X-ray image is attached.</td>
6235                         <td>July 14, 2004</td>
6236                     </tr>
6237                 </tbody>
6238             </table>
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6240         <entry typeCode="COMP">
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6244                     <text>Chest x-ray</text>
6245                     <effectiveTime value="20040714"/>
6246                     <value>Nothing unusual could be observed. X-ray image is attached.</value>
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6251                                     <reference value="test.jpg"/>
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6254                         </entryChoice>
6255                     </entryRelationship>
6256                 </Observation>
6257             </entryChoice>
6258         </entry>
6259     </section>
6260 </component>
6261 <!--
6262 *****
6263 Other Treatments
6264 *****
6265 -->
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6271                 <text>
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6276                                 <th>Outcome</th>
6277                                 <th>Date</th>
6278                             </tr>
6279                             <tr>
6280                                 <td>Herbal remedy</td>
6281                                 <td>The patient did not experience any improvement in her condition</td>
6282                                 <td>November 2003-February 2004</td>
6283                             </tr>
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6292                             <effectiveTime value="20031100000000.20040200000000"/>
6293                             <value>The patient did not experience any improvement in her
6294 condition.</value>
6295                         </Observation>
6296                     </entryChoice>
6297                 </entry>
6298             </section>
6299         </component>
6300         <!--
6301 *****
6302 Allergies
6303 *****
6304 -->
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6310                 <text>
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6314                                 <th>Allergy Type</th>
6315                                 <th>Severity</th>
6316                                 <th>Comments</th>
6317                                 <th>Date</th>
6318                             </tr>
6319                             <tr>
6320                                 <td>Penicillin</td>
6321                                 <td>Mild</td>
6322                                 <td>Penicillin. Resulting in hives. Patient hasn't been tested recently to
6323 see if this is still an active allergy</td>
6324                                 <td>1965</td>
6325                             </tr>
6326                             <tr>
6327                                 <td>Dairy products</td>
6328                                 <td>Moderate</td>
6329                                 <td>Dairy. Resulting in puffy eyes</td>
6330                                 <td>1970-1985</td>
6331                             </tr>
6332                         </tbody>
6333                     </table>
6334                 </text>
6335             </section>
6336         </component>
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6332         </tbody>
6333     </table>
6334 </text>
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6339                 <effectiveTime value="19650516"/>
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6341 if this is still an active allergy</value>
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6346                     </Observation>
6347                 </entryChoice>
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6350     </entry>
6351 </Observation>
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6358                 <effectiveTime value="19700000000000.19850000000000"/>
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6364                         </Observation>
6365                     </entryChoice>
6366                 </entryRelationship>
6367             </entryChoice>
6368         </entryRelationship>
6369     </Observation>
6370 </entryChoice>
6371 </entry>
6372 </section>
6373 </component>
6374 <!--
6375 *****
6376 Immunization
6377 *****
6378 -->
6379     <component>
6380         <section>
6381             <code code="11369-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Immunization"/>
6382             <title>Immunization</title>
6383             <text>
6384                 <table border="1">
6385                     <tbody>
6386                         <tr>
6387                             <th>Immunization</th>
6388                             <th>Date</th>
6389                         </tr>
6390                         <tr>
6391                             <td>Hepatitis A</td>
6392                             <td>September 24, 2000</td>
6393                         </tr>
6394                         <tr>
6395                             <td>Hepatitis A</td>
6396                             <td>January 27, 2002</td>
6397                         </tr>
6398                     </tbody>
6399                 </table>
6400             </text>
6401         </section>
6402     </component>
```

```
6398         </tr>
6399     </tr>
6400         <td>Inactivated Polio Vaccine (study)</td>
6401         <td>March 13, 1985</td>
6402     </tr>
6403     </tr>
6404         <td>Measles Mumps Rubella</td>
6405         <td>April 30, 1995</td>
6406     </tr>
6407 </tbody>
6408 </table>
6409 </text>
6410 <entry typeCode="COMP">
6411     <entryChoice>
6412         <Observation moodCode="EVN">
6413             <code code="HA" codeSystem="FC1AFD51-7DC6-404c-9B06-
6414 C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Hepatitis A"/>
6415             <effectiveTime value="20000924"/>
6416         </Observation>
6417     </entryChoice>
6418 </entry>
6419 <entry typeCode="COMP">
6420     <entryChoice>
6421         <Observation moodCode="EVN">
6422             <code code="HA" codeSystem="FC1AFD51-7DC6-404c-9B06-
6423 C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Hepatitis A"/>
6424             <effectiveTime value="20020127"/>
6425         </Observation>
6426     </entryChoice>
6427 </entry>
6428 <entry typeCode="COMP">
6429     <entryChoice>
6430         <Observation moodCode="EVN">
6431             <code code="IPV" codeSystem="FC1AFD51-7DC6-404c-9B06-
6432 C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Inactivated Polio Vaccine
6433 (study)"/>
6434             <effectiveTime value="19850313"/>
6435         </Observation>
6436     </entryChoice>
6437 </entry>
6438 <entry typeCode="COMP">
6439     <entryChoice>
6440         <Observation moodCode="EVN">
6441             <code code="MMR" codeSystem="FC1AFD51-7DC6-404c-9B06-
6442 C3234B850B65" codeSystemName="BCCDC - ImmunizationCode" displayName="Measles Mumps Rubella"/>
6443             <effectiveTime value="19950430"/>
6444         </Observation>
6445     </entryChoice>
6446 </entry>
6447 </section>
6448 </component>
6449 <!--
6450 *****
6451 Labs
6452 *****
6453 -->
6454     <component>
6455         <section>
6456             <code code="11502-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
6457 displayName="Labs"/>
6458             <title>Labs</title>
6459             <text>
6460                 <table border="1">
6461                     <tbody>
6462                         <tr>
6463                             <th>Type</th>
```

```
6464         <th>Collection Date</th>
6465         <th>Result/Unit</th>
6466         <th>Normal Result Range</th>
6467         <th>Abnormal?</th>
6468     </tr>
6469     <tr>
6470         <td>troponin I (Tnl)</td>
6471         <td>February 26, 2004</td>
6472         <td>0.5 ng/mL</td>
6473         <td>less than 0.5 ng/mL</td>
6474         <td>No</td>
6475     </tr>
6476     <tr>
6477         <td>creatine phosphokinase (CPK)</td>
6478         <td>February 26, 2004</td>
6479         <td>180 u/L</td>
6480         <td>5-200 u/L</td>
6481         <td>No</td>
6482     </tr>
6483     <tr>
6484         <td>lactate dehydrogenase (LDH)</td>
6485         <td>February 26, 2004</td>
6486         <td>400 u/L</td>
6487         <td>200-650 u/L</td>
6488         <td>No</td>
6489     </tr>
6490 </tbody>
6491 </table>
6492 </text>
6493 <entry typeCode="COMP">
6494     <entryChoice>
6495         <Observation moodCode="EVN">
6496             <code code="Tnl" codeSystemName="Lab Observation Table"
6497 displayName="troponin I"/>
6498             <effectiveTime value="20040226"/>
6499             <value>0.5 ng/mL</value>
6500             <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-
6501 2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>
6502             <referenceRange>
6503                 <referenceObservationRange>
6504                     <value>less than 0.5 ng/mL</value>
6505                 </referenceObservationRange>
6506             </referenceRange>
6507             <performer>
6508                 <assignedEntity>
6509                     <id displayable="true" root="476CAE01-D4E8-4894-A007-
6510 EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND DIVISION - SCS"/>
6511                     </assignedEntity>
6512                 </performer>
6513             </Observation>
6514         </entryChoice>
6515     </entry>
6516     <entry typeCode="COMP">
6517         <entryChoice>
6518             <Observation moodCode="EVN">
6519                 <code code="CPK" codeSystemName="Lab Observation Table"
6520 displayName="creatine phosphokinase"/>
6521                 <effectiveTime value="20040226"/>
6522                 <value>180 u/L</value>
6523                 <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-
6524 2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>
6525                 <referenceRange>
6526                     <referenceObservationRange>
6527                         <value>5-200 u/L</value>
6528                     </referenceObservationRange>
6529                 </referenceRange>
```

```
6530         <performer>
6531             <assignedEntity>
6532                 <id displayable="true" root="476CAE01-D4E8-4894-A007-
6533 EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND DIVISION - SCS"/>
6534             </assignedEntity>
6535         </performer>
6536     </Observation>
6537 </entryChoice>
6538 </entry>
6539 <entry typeCode="COMP">
6540     <entryChoice>
6541         <Observation moodCode="EVN">
6542             <code code="LDH" codeSystemName="Lab Observation Table"
6543 displayName="lactate dehydrogenase"/>
6544             <effectiveTime value="20040226"/>
6545             <value>400 u/L</value>
6546             <interpretationCode code="N" codeSystem="03B429EA-4C1A-4656-9F29-
6547 2E5A61B118B9" codeSystemName="EMSLabsResult" displayName="Normal"/>
6548             <referenceRange>
6549                 <referenceObservationRange>
6550                     <value>200-650 u/L</value>
6551                 </referenceObservationRange>
6552             </referenceRange>
6553             <performer>
6554                 <assignedEntity>
6555                     <id displayable="true" root="476CAE01-D4E8-4894-A007-
6556 EF55064175D0" assigningAuthorityName="MSP" extension="B0219 MDS METRO, ISLAND DIVISION - SCS"/>
6557                 </assignedEntity>
6558             </performer>
6559         </Observation>
6560     </entryChoice>
6561 </entry>
6562 </section>
6563 </component>
6564 <!--
6565 *****
6566 Past Referrals and Hospitalizations
6567 *****
6568 -->
6569     <component>
6570         <section>
6571             <code code="11336-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
6572 displayName="Past Referrals and Hospitalizations"/>
6573             <title>Past Referrals and Hospitalizations</title>
6574             <text>
6575                 <table border="1">
6576                     <tbody>
6577                         <tr>
6578                             <th>Location/Person</th>
6579                             <th>Type</th>
6580                             <th>Reason</th>
6581                             <th>Date</th>
6582                         </tr>
6583                         <tr>
6584                             <td>Good Health Hospital</td>
6585                             <td>Specialist</td>
6586                             <td>Pneumonia</td>
6587                             <td>1996</td>
6588                         </tr>
6589                     </tbody>
6590                 </table>
6591             </text>
6592             <entry typeCode="COMP">
6593                 <entryChoice>
6594                     <Encounter moodCode="EVN">
6595                         <id extension="Good Health Hospital"/>
```

```
6596         <code code="SP" codeSystem="4FE1CC50-FBDC-44a6-A005-  
6597 A49E9F7A6DA9" codeSystemName="HL7 - Act Encounter Code" displayName="Specialist"/>  
6598         <text>Pneumonia.</text>  
6599         <effectiveTime value="1996"/>  
6600     </Encounter>  
6601 </entryChoice>  
6602 </entry>  
6603 </section>  
6604 </component>  
6605 <!--  
6606 *****  
6607 Family History  
6608 *****  
6609 -->  
6610     <component>  
6611     <section>  
6612         <code code="10157-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"  
6613 displayName="Family History"/>  
6614         <title>Family History</title>  
6615         <text>The patient's father died of a myocardial infarction at the age of 65.</text>  
6616     </section>  
6617 </component>  
6618 </StructuredBody>  
6619 </bodyChoice>  
6620 </component>  
6621 <!--  
6622 *****  
6623 Related Document  
6624 *****  
6625 -->  
6626     <relatedDocument typeCode="APND">  
6627     <parentDocument>  
6628         <id extension="12346" root="2.16.840.1.113883.3.933"/>  
6629         <code code="34140-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"  
6630 displayName="Referral"/>  
6631         <text>A previous referral is related to this document</text>  
6632     </parentDocument>  
6633 </relatedDocument>  
6634 </ClinicalDocument>  
6635  
6636
```

## Appendix D – Minimum XML Instance

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns="urn:hl7-org:v3">
  <!--
  *****
  e-MS CDA Header
  *****
  -->
    <id extension="12345" root="2.16.840.1.113883.3.933"/>
    <code code="34140-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
  displayName="Referral"/>
    <title>Level 7 Healthcare, Inc Referral Letter</title>
    <effectiveTime value="20040809142222"/>
    <!--
    *****
    Record Target
    *****
    -->
      <recordTarget typeCode="RCT" contextControlCode="OP">
        <patientRole classCode="PAT">
          <id extension="999999999" root="2BFBA1E9-79C2-4bbb-B589-41B949BD6A3B"
  assigningAuthorityName="PHN"/>
          <patientPatient>
            <name>
              <prefix>Mrs.</prefix>
              <given>Eve</given>
              <given>E.</given>
              <family>Everywoman</family>
              <suffix>Jr.</suffix>
            </name>
            <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"
  codeSystemName="HL7 - Administrative Gender" displayName="Female"/>
            <birthTime value="19650516"/>
          </patientPatient>
        </patientRole>
      </recordTarget>
    <!--
    *****
    Author
    *****
    -->
      <author>
        <time value="20040812120000"/>
        <assignedAuthor>
          <id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/>
        </assignedAuthor>
      </author>
      <author>
        <time value="20040812120000"/>
        <assignedAuthor>
          <id extension="hippocrates" root="4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91"/>
          <assignedAuthorChoice>
            <assignedAuthoringDevice>
              <softwareName>e-MS Web</softwareName>
            </assignedAuthoringDevice>
          </assignedAuthorChoice>
        </assignedAuthor>
      </author>
    <!--
    *****
    Custodian
    *****
  </ClinicalDocument>
```



```
6699 -->
6700   <custodian typeCode="CST">
6701     <assignedCustodian>
6702       <representedCustodianOrganization>
6703         <id extension="123" root="7EEF0BCC-F03E-4742-A736-8BAC57180C5F"/>
6704       </representedCustodianOrganization>
6705     </assignedCustodian>
6706   </custodian>
6707   <!--
6708 *****
6709 Information Recipient
6710 *****
6711 -->
6712   <informationRecipient typeCode="PRCP">
6713     <intendedRecipient classCode="ASSIGNED">
6714       <id extension="ppump" root="DCCD2C68-389B-44c4-AD99-B8FB2DAD1493"/>
6715     <informationRecipient>
6716       <informationRecipientPerson>
6717         <name>
6718           <prefix>Dr.</prefix>
6719           <given>Patrick</given>
6720           <given>P.</given>
6721           <family>Pump</family>
6722           <suffix>Sr.</suffix>
6723         </name>
6724       </informationRecipientPerson>
6725     </informationRecipient>
6726   </intendedRecipient>
6727 </informationRecipient>
6728 <!--
6729 *****
6730 e-MS CDA Structured Body
6731 *****
6732 -->
6733   <component>
6734     <bodyChoice>
6735       <StructuredBody>
6736     <!--
6737 *****
6738 Purpose
6739 *****
6740 -->
6741   <component>
6742     <section>
6743       <code code="18662-7" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
6744       displayName="Referral Purpose"/>
6745       <title>Purpose Section</title>
6746       <text>
6747         <paragraph>
6748           Occasional occurrences of arrhythmia at rest accompanied with mild shortness of
6749           breath. Mild exercise leads to faintness and mild chest pain.
6750         </paragraph>
6751         <paragraph>
6752           Urgency: <content emphasis="bold">expedite</content>
6753         </paragraph>
6754         <table border="1">
6755           <tbody>
6756             <tr>
6757               <th>Other Provider</th>
6758               <th>Reason</th>
6759             </tr>
6760             <tr>
6761               <td>Dr. Vera V. Valve at Level 7 Healthcare, Inc </td>
6762               <td>High blood pressure in the past</td>
6763             </tr>
6764             <tr>
```



6765 <td>Dr. Sara S. Specialize at Good Health Hospital</td>  
6766 <td>24 Hour ECG recording</td>  
6767 </tr>  
6768 </tbody>  
6769 </table>  
6770 <paragraph>  
6771 The patient expressed that this problem has gradually been getting worse over the  
6772 course of the past year and a half.  
6773 </paragraph>  
6774 </text>  
6775 </section>  
6776 </component>  
6777 </StructuredBody>  
6778 </bodyChoice>  
6779 </component>  
6780 </ClinicalDocument>

## Appendix E – Core Data Set

### Clinical Document

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.1.2.1	ClinicalDocument.ID	extension root	Document_ID	Unique ID of the document.	EMS.II .RootExtension		M: 1..1	The ID is unique and generated by the sending application and can be used to match related clinical documents. In the case of multiple related documents and users merging these within the EMR system, it is the responsibility of the sending and receiving systems to handle the correlations.
4.1.2.2	ClinicalDocument.Code	code codeSystem codeSystemName displayName	Document_Type	The type of e-MS documents (e.g. referral, consult, medical summary).	EMS. CE.FullyQualified	LOINC: Document Type	M: 1..1	
4.1.2.3	ClinicalDocument.Title		Document_Title	Title of the document	ST		M: 1..1	
4.1.2.4	ClinicalDocument.EffectiveTime	value	Send_Date	Date and time that the e-MS document was sent.	EMS.Timestamp		M: 1..1	The send date and time should be the same as the date in the message transport.

## Related Document

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.2.2.1 ClinicalDocument.RelatedDocument.ParentDocument.ID	extension root	Related_Document_ID	The ID of another e-MS document that this document is related to.	EMS.II.RootExtension		M: 1..1	
4.2.2.2 ClinicalDocument.RelatedDocument.ParentDocument.Code	code codeSystem codeSystemName display	Related_Document_Type	The type of another e-MS document that this document is related to.	EMS.CE.Full	LOINC: Document Type	M: 1..1	
4.2.2.3 ClinicalDocument.RelatedDocument.ParentDocument.Text		Related_Document_Text	The description of the document that is related	ED		M: 1..1	
4.2.2.4 ClinicalDocument.RelatedDocument	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ActRelationshipDocument		

## Custodian

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.3.2.1 ClinicalDocument.Custodian.AssignedCustodian.RepresentedCustodianOrganization.ID	extension root	Custodian_ID	ID of the custodian of the document. The custodian represents the organization from which the document originates and that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document.	EMS.II.RootExtension		M: 1..1	The e-MS system will provide this identifier when the organization is first created.
4.3.2.2 ClinicalDocument.Custodian.AssignedCustodian.RepresentedCustodianOrganization.Name		Custodian_Name	Name of the custodian of the document. The custodian represents the organization from which the document originates and that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document.	ON		O: 0..1	
4.3.2.3 Custodian	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated		voc.xsd: Participation		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
			with the Participation has with regard to the associated Act.		nType		

## Author

Schema Data Element	Attributes	e-MS Equivalent	Description	Date type	Vocabulary	R/M/O: Cardinality	Comments
4.4.2.1 Author.Time	value	Create_Date	Date and time stamp when e-MS was created.	EMS.TS		M: 1..1	This may not be a partial date.
4.4.2.2 Author.Assigned Author.ID	extension root	AuthorID	User ID of individual that is clinically responsible for the e-MS.	EMS.II RootExtension		M: 1..1	An own internal ID will be created at this point with the possibility to use the PRS in the future.
<b>4.4.2.3. Provider Address</b>							
4.4.2.3.a Author.Assigned Author.Addr.StreetAddressLine		Provider_Address	An address is where documents are coming from. This information will be available in the provider lookup.	AD		O: 0..1	assignedEntity.addr is a mixed content element so if the individual components of an address are not available then the entire address could be put in this element.
4.4.2.3.b Author.Assigned Author.Addr.City		Provider_City	The city where the care provider is located	AD		O: 0..1	
4.4.2.3.c Author.Assigned Author.Addr.State		Provider_Province_State	The province where the care provider is located	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.4.2.3.d Author.Assigned Author.Addr.PostalCode		Provider_Postal_Zip	Location identifier used by Canada Post	AD		O: 0..1	
4.4.2.3.e Author.Assigned Author.Addr.Country		Provider_Country	Nation or state within which the care provider is found.	AD	ISO: Country	O: 0..1	
4.4.2.4 Author.Assigned Author.Telecom	value use	Provider_Telecom Use Provider_Telecom_Value	A classification of the telecommunication type, e.g. Business phone, business fax, home phone, home fax, cell, e-mail together with the phone number or e-mail address	EMS.TEL	HL7: TelecommunicationAddress Use HL7: URLScheme	O: 0..*	

Schema Data Element	Attributes	e-MS Equivalent	Description	Date type	Vocabulary	R/M/O: Cardinality	Comments
<b>4.4.2.5. Provider Name</b>							
4.4.2.5.a	Author.Assigned Author.assigned AuthorChoice.as signedPerson.N ame.Prefix	Provider_Prefix	Title used by the person (i.e. Mr., Mrs., Ms., Dr.).	PN		O: 0..1	assigneePerson.name is a mixed content element so if the individual components of a person's name are not available then the entire name could be put in this element.
4.4.2.5.b	Author.Assigned Author.assigned AuthorChoice.as signedPerson.N ame.Given	Provider_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.4.2.5.c	Author.Assigned Author.assigned AuthorChoice.as signedPerson.N ame.Family	Provider_Family_Name	Last name or family name of person.	PN		M: 1..1	
4.4.2.5.d	Author.Assigned Author.assigned AuthorChoice.as signedPerson.N ame.Suffix	Provider_Suffix	An addition to a surname to distinguish a person (i.e. III, Sr., Jr.).	PN		O: 0..1	
4.4.2.6	Author.Assigned Author.assigned AuthorChoice.as signedAuthoring Device.software Name	Source_System_Name	Identifies the originating system that generated the e-MS.	SC	e-MS: Source System	M: 1..1	

## Information Recipient

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.5.2.1	InformationRecipient.IntendedRecipient.ID	Recipient_ID	User ID of individual that is clinically responsible for the e-MS.	EMS.II .RootElement		M: 1..1	An e-MS ID will be created for Phase 2. In the future it is expected that the PRS ID will be used.

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.5.2.2. Recipient Address							
4.5.2.2.a InformationRecipient.IntendedRecipient.Address.StreetAddressLine		Recipient_Address	An address is where documents are coming from. This information will be available in the provider lookup.	AD		O: 0..1	assignedEntity.address is a mixed content element so if the individual components of an address are not available then the entire address could be put in this element.
4.5.2.2.b InformationRecipient.IntendedRecipient.Address.City		Recipient_City	The city where the care provider is located	AD		O: 0..1	
4.5.2.2.c InformationRecipient.IntendedRecipient.Address.State		Recipient_Province_State	The province where the care provider is located	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.5.2.2.d InformationRecipient.IntendedRecipient.Address.PostalCode		Recipient_Postal_Zip	Location identifier used by Canada Post	AD		O: 0..1	
4.5.2.2.e InformationRecipient.IntendedRecipient.Address.Country		Recipient_Country	Nation or state within which the care provider is found.	AD	ISO: Country	O: 0..1	
4.5.2.3 InformationRecipient.IntendedRecipient.Telecom	value use	Recipient_Telecom_Usage Recipient_Telecom_Value	A classification of the telecommunication type, e.g. Business phone, business fax, home phone, home fax, cell, e-mail together with the phone number or e-mail address of the care provider	EMSTEL	HL7: TelecommunicationAddressUse HL7: URLScheme	O: 0..*	
4.5.2.4. Recipient Name							
4.5.2.4.a InformationRecipient.IntendedRecipient.InformationRecipient.InformationRecipient.Name.Prefix		Recipient_Prefix	Title used by the person (i.e. Mr., Mrs., Ms., Dr.).	PN		O: 0..1	assignedPerson.name is a mixed content element so if the individual components of a person's name are not available then the entire name could be put in this element.

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.5.2.4.b	InformationRecipient.IntendedRecipient.InformationRecipient.InformationPerson.Name.Given		Recipient_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.5.2.4.c	InformationRecipient.IntendedRecipient.InformationRecipient.InformationPerson.Name.Family		Recipient_Family_Name	Last name or family name of person.	PN		M: 1..1	
4.5.2.4.d	InformationRecipient.IntendedRecipient.InformationRecipient.InformationPerson.Name.Suffix		Recipient_Suffix	An addition to a surname to distinguish a person (i.e. III, Sr., Jr.).	PN		O: 0..1	
4.5.2.5	InformationRecipient.IntendedRecipient.ReceivedOrganization.Name		Recipient_Organization	The organization where the receiving care provider is currently working when sending the e-MS.	ON		O: 0..1	
4.5.2.6	InformationRecipient	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		voc.xsd: x_InformationRecipient		
4.5.2.7	InformationRecipient	classCode		A code specifying the major type of Act that this Act-instance represents.		voc.xsd: x_InformationRecipientRole		

## Record Target

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
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Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.6.2.1 RecordTarget.PatientRole.ID	extension root assigningAuthorityName	Patient_PHN PHN_Province	Personal Health Number with corresponding province. Numerical lifetime identifier used in the specific identification of an individual client or patient who has any interaction with the (BC) health system.	EMS.II .RootE xtensi onAut hority	Canada Post: Province Codes/State Codes	R: 0..1	Use the AssigningAuthorityName attribute for the Province. Only use the codes for the Canadian Provinces/Territories.
4.6.2.2 RecordTarget.PatientRole.ID	extension root assigningAuthorityName	Patient_OtherID_Type Patient_OtherID	Type of secondary identification. Could be Workers Compensation Board Number, Interim Federal Health Number, Veteran Affairs Benefits Number, MRN (unique to each HA or facility) and/or Band Number.	EMS.II .RootE xtensi onAut hority		O: 0..*	Use the AssigningAuthorityName attribute for the type of ID. There must be at least one ID for a patient.
<b>4.6.2.3. Patient Address</b>							
4.6.2.3.a RecordTarget.PatientRole.Addr.StreetAddressLine		Patient_Address	An address is where the patient resides.	AD		O: 0..1	
4.6.2.3.b RecordTarget.PatientRole.Addr.City		Patient_Address_City	City where the patient resides.	AD		O: 0..1	
4.6.2.3.c RecordTarget.PatientRole.Addr.State		Patient_Address_Province_State	Province or state where the patient resides.	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.6.2.3.d RecordTarget.PatientRole.Addr.PostalCode		Patient_Address_Postal_Zip	Postal or zip code of where the patient resides.	AD		O: 0..1	
4.6.2.3.e RecordTarget.PatientRole.Addr.Country		Patient_Country	Country where the patient resides.	AD	ISO: Country	O: 0..1	
4.6.2.4 RecordTarget.PatientRole.Telecommunication	value use	Patient_Telecom_Use Patient_Telecom_Value	A classification of the telecommunication type and value associated with it.	EMS.T EL	HL7: Telecommu nicationAddr essUse HL7: URLScheme	O: 0..*	
<b>4.6.2.5. Patient Name</b>							
4.6.2.5.a RecordTarget.PatientRole.Patient		Patient_Prefix	The title used by the patient (i.e. Mr. Miss. Ms. Mrs.).	PN		O: 0..1	



	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	Patient.Name.Prefix							
4.6.2.5.b	RecordTarget.PatientRole.PatientName.Given		Patient_Given_Name	First name, second name, middle name of person.	PN		M: 1..*	
4.6.2.5.c	RecordTarget.PatientRole.PatientName.Family		Patient_Family_Name	Last name or family name of the patient.	PN		M: 1..1	
4.6.2.5.d	RecordTarget.PatientRole.PatientName.Suffix		Patient_Suffix	An addition to a surname to distinguish a person (e.g. III, Sr., Jr.).	PN		O: 0..1	
4.6.2.6	RecordTarget.PatientRole.AdministrativeGenderCode	code codeSystem codeSystemName displayName	Patient_Gender	Patient gender.	CE	HL7: AdministrativeGender NullFlavor Option: UNK - Unknown	R: 1..1	
4.6.2.7	RecordTarget.PatientRole.PatientBirthTime	value	Patient_DOB	Patient date of birth.	TS	NullFlavor Option: UNK - Unknown	R: 1..1	The patient DOB may not be a partial date.
4.6.2.8	RecordTarget.PatientRole.LanguageCode	code	Patient_PREFERRED_Language	Primary language used for patient communication.	CS		O: 0..1	
4.6.2.9	recordTarget	typeCode contextControlCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.  A code that specifies how this Participation contributes to the context of the current Act, and whether it may be propagated to descendant Acts whose association allows such propagation.		Voc.xsd: ParticipationType Voc.xsd: ContextControl		
4.6.2.10	recordTarget.patientRole	ClassCode		A code specifying the major category of a Role as		voc.xsd: RoleClass		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
			defined by HL7 vocabulary.				

## Participant

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.7.2.1 Participant.ParticipatingEntity.Code	code codeSystem codeSystemName displayName	Contact_Relationship_Type	The relationship of the contact to the patient.	EMS. CE.FullyQualifiedType	HL7: PersonalRelationshipRoleType	R: 0..1	
4.7.2.2. Contact Address							
4.7.2.2.a Participant.ParticipatingEntity.Addr.StreetAddressLine		Contact_Address	An address where the contact person resides.	AD		O: 0..1	
4.7.2.2.b Participant.ParticipatingEntity.Addr.City		Contact_Address_City	The city where the contact person resides.	AD		O: 0..1	
4.7.2.2.c Participant.ParticipatingEntity.Addr.State		Contact_Address_Province_State	The province or state where the contact person resides.	AD	Canada Post: Province Codes/State Codes	O: 0..1	
4.7.2.2.d Participant.ParticipatingEntity.Addr.PostalCode		Contact_Address_Postal_Zip	The postal or zip code where the contact person resides.	AD		O: 0..1	
4.7.2.2.e Participant.ParticipatingEntity.Addr.Country		Contact_Country	The country where the contact person resides.	AD	ISO: Country	O: 0..1	
4.7.2.3 Participant.ParticipatingEntity.Telecom	value use	Contact_Telecom_Use Contact_Telecom_Value	A classification of the telecommunication type and value associated with it.	EMS.TEL	HL7: TelecommunicationAddressUse HL7: URLScheme	O: 0..*	
4.7.2.4. Contact Name							
4.7.2.4.a Participant.ParticipatingEntity.AssociatedPerson.Name.e.Prefix		Contact_Prefix	The title used by the contact (e.g. Mr., Mrs., Miss., Ms.).	PN		O: 0..1	
4.7.2.4.a Participant.ParticipatingEntity.AssociatedPerson.Name.e.Given		Contact_Given_Name	First name, second name, middle name of the contact.	PN		R: 0..1	
4.7.2.4.b Participant.ParticipatingEntity		Contact_Family	Last name or family name of	PN		R: 0..1	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
Participant. AssociatedPerson. NameFamily		Name	the contact.				
4.7.2.4.c Participant. ParticipatingEntity. AssociatedPerson. NameSuffix		Contact_Suffix	An addition to a surname to distinguish a contact person (i.e. III, Sr., Jr.).	PN		O: 0..1	
4.7.2.5 Participant	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		Voc.xsd: ParticipationType		
4.7.2.6 Participant. ParticipatingEntity	classCode		A code specifying the major category of a Role as defined by HL7 vocabulary.		Voc.xsd: RoleClassAssociative		

## Purpose

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.1.2.1 Component. Section. Code	code codeSystem codeSystemName displayName	Document_Purpose_Section_Code	Code identifying the Purpose section. The value in this field should always be the LOINC code given.	EMS. CE.FullyQualifiedIdentifier	e-MS Document Section Code: 001	M: 1..1	
5.1.2.2 Component. Section. Title		Document_Purpose_Section_Title	Human readable title of the section	ST		M: 1..1	
5.1.2.3 Component. Section. Text		Document_Purpose_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.1.2.4 Component. Section. Entry. EntryChoice. Observation. Text		eMS_Purpose_Reason	Reason for the referral request.	ED		O: 0..1	
5.1.2.5 Component. Section. Entry. EntryChoice. Observation. PriorityCode	code codeSystem codeSystemName displayName	eMS_Purpose_Urgency	Urgency for appointment booking and/or referral request.	CE	e-MS: Urgency	O: 0..1	
5.1.2.6 Component. Section. Entry. EntryChoice. Observation. Value		eMS_Purpose_Comments	Additional comments about the referral request.	PQ		O: 0..1	
5.1.2.7 Component. Section. Entry. EntryChoice. Observation		eMS_Purpose_Other_Provider	List of other providers currently involved in the care of the patient.	EN		O: 0..*	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	.Participant1.ParticipantRole.PlayingEntityChoice.PlayingEntity.Name							
5.1.2.8	Component.Section.EntryChoice.Observation.Participant1.ParticipantRole.PlayingEntityChoice.PlayingEntity.Desc		eMS_Purpose_Other_Provider_Reason	Reason for which each additional provider is involved in the care of the patient.	ED		O: 0..*	
5.1.2.9	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ParticipationInformationGenerator_X		
5.1.2.10	Component.Section.EntryChoice.Observation	moodCode		A code distinguishing whether an Act is conceived of as a factual statement or in some other manner as a command, possibility, goal, etc.		Voc.xsd: ActMoodObservation_X		
5.1.2.11	Component.Section.EntryChoice.Observation.Participant1	typeCode		A code specifying the kind of Participation or involvement the Entity playing the Role associated with the Participation has with regard to the associated Act.		Voc.xsd: ParticipationType		

## Alerts

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.2.2.1	Component.Section.Code	codeSystemName codeSystem codeSystemName displayName	Alert_Section_Code	Code identifying the Alerts section. The value in this field should always be the LOINC code given.	EMS.CE: Full	e-MS Document Section Code: 002	M: 1..1	
5.2.2.2	Component.Section.Title		Alert_Section_Title	Human readable title of the section	ST		M: 1..1	
5.2.2.3	Component.Section.Text		Alert_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.2.2.4	Component.Section.		Alert_Type	Type of warning (i.e. history of	ED		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	Entry.EntryChoice.Observation.Text			violence, mental health, etc)				
5.2.2.5	Component.Section.Entry.EntryChoice.Observation.EffectiveTime	value	Alert_Date	Date when the alert was first recorded on the patient chart.	IVL_TS		O: 0..1	This may be a partial date
5.2.2.6	Component.Section.Entry.EntryChoice.Observation.Value		Alert_Comments	Additional comments regarding the alert.	PQ		O: 0..1	
5.2.2.7	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:ParticipationInformationGenerator_X		
5.2.2.8	Component.Section.Entry.Choice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ActMoodDocumentObservation_X		

## Social History / Risks

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
4.3.2.1	Component.Section.Title		Risk_Section_Title	Human readable title of the section.	ST		M: 1..1	
4.3.2.2	Component.Section.Text		Risk_Section_Text	This field will be used for data to be entered if it is only sent or received at level 2.	ED		M: 1..1	
4.3.2.3	Component.Section.Code	code codeSystem codeSystemName displayName	Risk_Section_Code	Code identifying the Social History/Risks section.	CE	LOINC: 29762-2	M: 1..1	
<b>Level 3 Data Elements</b>								
4.3.2.4	Component.Section.Entry.EntryChoice.Observation.Text		Risk_Type	Type of risk factor (usually has a medical impact). Examples may include alcohol use or smoking.	ED		O: 0..1	
4.3.2.5	Component.Section	value	Risk_Date	Date when the risk was first	IVL		O: 0..1	This may be a partial

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
.Entry.Choice.Observation.EffectiveTime		Risk_End_Date	recorded on the patient chart and date when the risk ended.				date
4.3.2.6 Component.Section.Entry.Choice.Observation.Value		Risk_Comments	Additional comments regarding the risk factor.	ANY		O: 0..1	
4.3.2.7 Component.Section.entry	typeCode				Voc.xsd:ParticipationInformationGenerator_X		
4.3.2.8 Component.Section.entry.Choice.observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ActMoodDocumentObservation_X		

## Examination Measurements

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.4.2.1 Component.Section.n.Code	code codeSystem codeSystemName displayName	Obs_Section_Code	Code identifying the Examination Measurements section. The value in this field should always be the LOINC code given.	EMS.CE.FullyQualifiedCode	e-MS Document Section Code: 003	M: 1..1	
5.4.2.2 Component.Section.n.Title		Obs_Section_Title	Human readable title of the section	ST		M: 1..1	
5.4.2.3 Component.Section.n.Text		Obs_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.4.2.4 Component.Section.n.Entry.Choice.Observation.Code	code codeSystem codeSystemName displayName value	Obs_Height_Code	Code identifying height	CD	LOINC: 83022-2	O: 0..1	
5.4.2.5 Component.Section.n.Entry.Choice.Observation.EffectiveTime		Obs_Height_Eff_Date	Effective date of the height observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.6 Component.Section		Obs_Height	Patient height consisting of	PQ		O: 0..1	Enter height in inches

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	n.Entry.Choice e.Observation.Value			numeric height values and unit of measurement.				or centimeters but not both.
5.4.2.7	Component.Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName value	Obs_Weight_Code	Code identifying weight	CD	LOINC: 3141-9	O: 0..1	
5.4.2.8	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_Weight_Eff_Date	Effective date of the weight observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.9	Component.Section n.Entry.Choice e.Observation.Value		Obs_Weight	Patient weight consisting of numeric weight value and unit of measurement.	PQ		O: 0..1	Enter weight in pounds or kilograms but not both.
5.4.2.10	Component.Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName value	Obs_Pulse_Code	Code identifying pulse	CD	LOINC: 11328-2	O: 0..1	
5.4.2.11	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_Pulse_Eff_Date	Effective date of the pulse observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.12	Component.Section n.Entry.Choice e.Observation.Value		Obs_Pulse	Patient pulse.	PQ		O: 0..1	
5.4.2.13	Component.Section n.Entry.Choice e.Observation.Code	code codeSystem codeSystemName displayName value	Obs_BP_Code	Code identifying blood pressure	CD	e-MS data element code: 004	O: 0..1	
5.4.2.14	Component.Section n.Entry.Choice e.Observation.EffectiveTime		Obs_BP_Eff_Date	Effective date of the blood pressure observation.	IVL_TS		O: 0..1	This may be a partial date
5.4.2.15	Component.Section n.Entry.Choice e.Observation.Value		Obs_BP	Patient systolic and diastolic blood pressure.	PQ		O: 0..1	
5.4.2.16	Component.Section Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints		Voc.xsd:ParticipationInformationGenerator_X		

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.4.2.1 7	moodCode		to what kinds of Act objects can be related and in which way. Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDo cumentObserv ation_X		

### Active Problem List

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
4.5.2.1 Component.Secti on.Title		Active_Condition_Sectio n_Title	Human readable title of the section.	ST		M: 1..1	
4.5.2.2 Component.Secti on.Text		Active_Condition_Sectio n_Text	This field will be used for data to be entered if it is only sent or received at level 2.	ED		M: 1..1	
4.5.2.3 Component.Secti on.Code	code codeSystem codeSystemName displayName	Active_Condition_Sectio n_Code	Code identifying the Active Problem List section.	CE	LOINC: 11450-4	M: 1..1	
<b>Level 3 Data Elements</b>							
4.5.2.4 Component.Secti on.Entry.Ch oice.Observation. Code	code codeSystem codeSystemName displayName	Active_Condition_Diagn osis	Diagnosis of a current problem.	CE	ICD-9 diagnostic codes	O: 0..1	
4.5.2.5 Component.Secti on.Entry.Ch oice.Observation. EffectiveTime	value	Active_Condition_Onset _Date	Date of the onset of the problem.	TS		O: 0..1	This may be a partial date.
4.5.2.6 Component.Secti on.Entry.Ch oice.Observation. Value		Active_Condition_Comm ents	Additional comments regarding the current problem.	ANY		O: 0..1	
4.5.2.7 Component. Section.entry	typeCode				Voc.xsd:Par ticipationInf ormationGe nerator_X		



Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
4.5.2.8 Component. Section.entry.entryChoice.observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDocumentObservation_X		

## Current Medications

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.6.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Med_Section_Code	Code identifying the Current Medications section. The value in this field should always be the LOINC code given.	EMS. CE.Ful I	LOINC: 19789-7	M: 1..1	
5.6.2.2	Component.Section.Title		Med_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.6.2.3	Component.Section.Text		Med_Section_Text	This field will be used to enter all of the data for this section at level 2.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.6.2.4	Component.Section.Entry. EntryChoice.SubstanceAdministration.EffectiveTime	value	Med_Effective_Date Med_Stop_Date	The date that the patient began taking the medication and the date when the patient ended taking the medication.	IVL_TS		O: 0..1	
5.6.2.5	Component.Section.Entry. EntryChoice.SubstanceAdministration.EffectiveTime. Low	value	Med_Frequency	Value of the frequency of administration of the prescribed medication (e.g. 24 used in the case of per day).	IVL_TS		O: 0..1	
5.6.2.6	Component.Section.Entry. EntryChoice.SubstanceAdministration.EffectiveTime. Width	unit	Med_Frequency	Unit of the frequency of administration of the prescribed medication (e.g. h used in the case of per day).	IVL_TS		O: 0..1	
5.6.2.7	Component.Section.Entry. EntryChoice.SubstanceAdministration.RepeatNumber	value	Med_Repeats	Number of repeats for the prescribed medication.	IVL_INT		O: 0..1	
5.6.2.8	Component.Section.Entry. EntryChoice.SubstanceAdministration.RouteCode	code codeSystem codeSystemName displayName	Med_Administration_Route	The route the prescribe medication is to be administered (e.g. oral, nasal, needle, etc.).	CE	HL7: MedAdministrationRoute	O: 0..1	
5.6.2.9	Component.Section.Entry.	value	Med_Dose	The dosage of the prescribed	PQ		O: 0..1	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
EntryChoice.SubstanceAdministration.DoseQuantity	unit		medication (e.g. 2 * 250 mg)				
5.6.2.10 Component.Section.EntryChoice.SubstanceAdministration.Consumable.ManufacturedProduct.ManufacturedDrugOrOtherMaterial.ManufacturedLabeledDrug.Code	code codeSystem codeSystemName displayName	Med_DIN_ID Med_DIN_Name	The Drug Identification Number for the prescribed medication.	CE		O: 0..1	
5.6.2.11 Component.Section.EntryChoice.SubstanceAdministration.Consumable.ManufacturedDrugOrOtherMaterial.ManufacturedLabeledDrug.Name		Med_Name	The other name (brand or generic) of the prescribed medication.	EN		O: 0..1	
5.6.2.12 Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:ParticipationInformationGenerator_X		
5.6.2.13 Component.Section.EntryChoice.SubstanceAdministration	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ParticipationInformationGenerator_X		

## Medical History

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.7.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Past_Condition_Section_Code	Code identifying the Medical History section. The value in this field should always be the LOINC code given.	EMS. CE.FullyQualified	LOINC: 11348-0	M: 1..1	
5.7.2.2 Component.Section.Title		Past_Condition_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.7.2.3 Component.Section.Text		Past_Condition_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 3 Data Elements</b>								
5.7.2.4	Component.Section.EntryChoice.Observation.Code	code codeSystem codeSystemName displayName value	Past_Condition_Diagnosis	The diagnosis of a past condition.	CE	ICD-9 diagnostic codes	O: 0..1	
5.7.2.5	Component.Section.EntryChoice.Observation.EffectiveTime		Past_Onset_Date Past_Date_Resolved	The date of the past condition onset / occurrence / incident and the date the condition was resolved.	IVL_TS		O: 0..1	This may be a partial date.
5.7.2.6	Component.Section.EntryChoice.Observation.Value		Past_Condition_Comments	Additional comments regarding the past condition.	PQ		O: 0..1	
5.7.2.7	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:ParticipationInformationGenerator_X		
5.7.2.8	Component.Section.EntryChoice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ActMoodDocumentObservation_X		

## Surgical History

Schema Data Element		Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.8.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Surgical_Section_Code	Code identifying the Surgical History section. The value in this field should always be the LOINC code given.	EMS, CE, Full	LOINC: 10167-5	M: 1..1	
5.8.2.2	Component.Section.Title		Surgical_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.8.2.3	Component.Section.Text		Surgical_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.8.2.4	Section.Entry.Entry		Surgical_Procedure	A description of the surgical	ED		O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	Choice.Procedure.Text		Description	procedure.				
5.8.2.5	Component.Section.Entry.Choice.Procedure.EffectiveTime	value	Surgical_Procedure_Date	The date of the completed surgical procedure.	IVL_TS		O: 0..1	This may be a partial date.
5.8.2.6	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd:ParticipationInformationGenerator_X		
5.8.2.7	Component.Section.Entry.Choice.Procedure	MoodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd:ActMoodDocumentObservation_X		

## Medical Imaging History

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.9.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	MI_Procedure_Section_Code	Code identifying the Medical Imaging History section. The value in this field should always be the LOINC code given.	EMS.CE.FullyQualifiedCode	LOINC: 35090-0	M: 1..1	
5.9.2.2	Component.Section.Title		MI_Procedure_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.9.2.3	Component.Section.Text		MI_Procedure_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.9.2.4	Component.Section.Entry.Choice.Observation.Text		MI_Procedure_Description	A description of the medical imaging procedure that was performed.	ED		O: 0..1	
5.9.2.5	Component.Section.Entry.Choice.Observation	value	MI_Procedure_Date	The date that the medical imaging procedure was performed.	IVL_TS		O: 0..1	This may be a partial date.

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.9.2.6	Component.Section.Entry.Choice.Observation.Value		MI_Procedure_Results	Additional comments regarding the radiology procedure and/or findings.	PQ		O: 0..1	
5.9.2.7	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.	CS	Voc.xsd: ParticipationInformationGenerator_X		
5.9.2.8	Component.Section.Entry.Choice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: ActMoodObservation_X		

## Other Treatments

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.10.2.1	Component.Section.Code	code codeSystem codeSystemName displayName	Other_Treatment_Section_Code	Code identifying the Other Treatments section. The value in this field should always be the LOINC code given.	EMS_CEE_Full	e-MS Document Section Code: 005	M: 1..1	
5.10.2.2	Component.Section.Title		Other_Treatment_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.10.2.3	Component.Section.Text		Other_Treatment_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.10.2.4	Component.Section.Entry.Choice.Observation.Text		Other_Treatment_Type	Other treatment options that the patient has tried (other than medication and procedures).	ED		O: 0..1	
5.10.2.5	Component.Section.Entry.Choice.Observation.Effective Time	value	Other_Treatment_Date	The date when the other treatment was ordered or when the provider was notified by the patient of the alternative therapy decision.	IVL_TS		O: 0..1	This may be a partial date.
5.10.2.6	Component.Section.Entry.Choice.Observation.Value		Other_Treatment_Outcome	The outcome of the other treatment.	PQ		O: 0..1	

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.10.2.7	Component.Section.Entry		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: Participatio nInformatio nGenerator _X		
5.10.2.8	Component.Section.Entry. entryChoice.Observation		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bservation_ X		

## Allergies

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.11.2.1	Component.Section.Entry.Code		Code identifying the Allergies section. The value in this field should always be the LOINC code given.	EMS. CE.F ull	e-MS Document Section Code: 006	M: 1..1	
5.11.2.2	Component.Section.Entry.Title		Human readable title of the section.	ST		M: 1..1	
5.11.2.3	Component.Section.Entry.Text		This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							
5.11.2.4	Component.Section.Entry.EntryChoice.Observation.Code		A description of the allergy or adverse reaction.	CE	HL7: Allergy Type	O: 0..1	
5.11.2.5	Component.Section.Entry.EntryChoice.Observation.Effective Time		The date when the allergy or adverse reaction was recorded on the patient chart and the date that the allergy problem or adverse reaction was resolved.	IVL_ TS		O: 0..1	This may be a partial date.
5.11.2.6	Component.Section.Entry.EntryChoice.Observation.Value		Any additional comments regarding the allergy or adverse reaction including the allergen.	PQ		O: 0..1	
5.11.2.7	Component.Section.Entry.EntryChoice		The severity of the allergy or adverse reaction.	CE	HL7: Allergy Severity	O: 0..1	

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
	oice.Observation. EntryRelationship .EntryChoice.Observation.Code	codeSystemName displayName						
5.11.2.8	Component.Secti on.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ParticipationIn formationGen erator_X		
5.11.2.9	Component.Secti on.Entry.EntryCh oice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDo cumentObserv ation_X		

## Immunization

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>								
5.12.2.1	Component.Secti on.Code	code codeSystem codeSystemName displayName	Immunization_Section_C ode	Code identifying the Immunization section. The value in this field should always be the LOINC code given.	EMS. CE.Fu ll	LOINC: 11369-6	M: 1..1	
5.12.2.2	Component.Secti on.Title		Immunization_Section_T itle	Human readable title of the section.	ST		M: 1..1	
5.12.2.3	Component.Secti on.Text		Immunization_Section_T ext	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>								
5.12.2.4	Component.Secti on.Entry.EntryCh oice.Observation. Code	code codeSystem codeSystemName displayName	Immunization_Code	The code of the immunization that was administered.	CE	BCCDC: BC Vaccination Codes	O: 0..1	
5.12.2.5	Component.Secti on.Entry.EntryCh oice.Observation. EffectiveTime		Immunization_Date	The date that the immunization was administered.	IVL_T S		O: 0..1	This may be a partial date.

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.12.2.6 Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: ParticipationInformationGenerator_X		
5.12.2.7 Component.Section.Entry.Choice.Observation	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDocumentObservation_X		

## Labs

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.13.2.1 Component.Section.Code	code codeSystem codeSystemName displayName	Labs_Section_Code	Code identifying the Labs section. The value in this field should always be the LOINC code given.	EMS. CE.Fully I	LOINC: 11502-2	M	
5.13.2.2 Component.Section.Title		Labs_Section_Title	Human readable title of the section.	ST		M	
5.13.2.3 Component.Section.Text		Labs_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M	
<b>Level 3 Data Elements</b>							
5.13.2.4 Component.Section.Entry.Choice.Observation.Code	code codeSystem codeSystemName displayName value	Labs_Test_Type	The type of test that was ordered.	CE		R: 0..1	
5.13.2.5 Component.Section.Entry.Choice.Observation.effectiveTime		Labs_Test_Specimen_Collected_Date/ Time	The date and time that the specimen was collected for the test.	IVL_TS		O: 0..1	
5.13.2.6 Component.Section.Entry.Choice.Observation.value		Labs_Test_Result	The result of the test.	PQ		O: 0..1	
5.13.2.7 Component.Section.Entry.Choice.Observation	code codeSystem	Labs_Normal_Result_Range	The value range, which is considered normal for the specific laboratory test	ED		O: 0..1	



Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.13.2.8	codeSystemName displayName	Labs_Abnormal_Result_Flag	(includes unit and measurement). Flag for abnormal test results.	CE		O: 0..1	The abnormal flag originally sent by the lab should be used.
5.13.2.9	extension	Labs_Source	The laboratory where the result originated / test was performed.	II	BC Lab Standard: Diagnostic Facilities Listing	O: 1..1	
5.13.2.10	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: Participatory InformationGenerator_X		
5.13.2.11	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMoodDocumentObservation_X		

## Past Referrals and Hospitalizations

Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
<b>Level 2 Data Elements</b>							
5.14.2.1	code codeSystem codeSystemName displayName	Referral_Section_Code	Code identifying the Past Referrals and/or Hospitalizations section. The value in this field should always be the LOINC code given.	EMS, CE, Full	LOINC: 11336-5	M: 1..1	
5.14.2.2		Referral_Section_Title	Human readable title of the section.	ST		M: 1..1	
5.14.2.3		Referral_Section_Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	
<b>Level 3 Data Elements</b>							

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.14.2.4	Component.Section.Entry.Entr yChoice.Performer.AssignedE ntity.ID	extension	Referral_Location	Location where the referral took place (e.g. name of a hospital).	II		O: 0..1	
5.14.2.5	Component.Section.Entry.Entr yChoice.Encounter.Code	code codeSystem codeSystemName displayName	Referral_Type	The type of referral that was made	CE	HL7: ActEncoun terCode	O: 0..1	
5.14.2.6	Component.Section.Entry.Entr yChoice.Encounter.Text		Referral_Reason	The reason for the past referral or hospitalization.	ED		O: 0..1	
5.14.2.7	Component.Section.Entry.Entr yChoice.Encounter.EffectiveTi me	value	Referral_Date	The date of the past referral or hospitalization.	IVL_T S		O: 0..1	This may be a partial date.
5.14.2.8	Component.Section.Entry	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way.		Voc.xsd: Participatio nInformatio nGenerator _X		
5.14.2.9	Component.Section.Entry.Entr yChoice.Encounter	moodCode		Mood code indicates whether an Act has happened (an event), or is a request for something to happen, or a goal or even a criterion.		Voc.xsd: x_ActMood DocumentO bservation_ X		

## Family History

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.15.2.1	Section.Code		Fam_Hist_Section_ Code	Code identifying the Family History section. The value in this field should always be the LOINC code given.	EMS. CE.Ful I	LOINC: 10157-6	M: 1..1	
5.15.2.2	Section.Title		Fam_Hist_Section_ Title	Human readable title of the section.	ST		M: 1..1	
5.15.2.3	Section.Text		Fam_Hist_Section_ Text	This field will be used to enter all of the data for this section.	TEXT		M: 1..1	

## Observation Media

	Schema Data Element	Attributes	e-MS Equivalent	Description	Data type	Vocabulary	R/M/O: Cardinality	Comments
5.16.2.1	EntryRelationship	typeCode		A code specifying the meaning and purpose of every ActRelationship instance. Each of its values implies specific constraints to what kinds of Act objects can be related and in which way				
5.16.2.2	EntryRelationship.EntryChoice.ObservationMedia.Value	mediaType		Type of attachment	ED			
5.16.2.3	EntryRelationship.EntryChoice.ObservationMedia.Value.Reference	value		Reference to the file attachment.	URL		R: 0..*	

## Appendix F – Vocabularies / Code Sets

### LOINC: Document Type

#### Code Set

34140-4	Referral
11488-4	Consultation
28616-1	Summary

#### Corresponding Data Elements

Document\_Type (4.1.2.2)

Related\_Document\_Type (4.2.2.2)

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### e-MS: Source System

#### Code Set

W	Wolf
C	CLINICARE
E	e-MS Web

#### Corresponding Data Elements

Source\_System\_Name (4.4.2.6)

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### Canada Post: Province Codes / State Codes

#### Code Set

AB	Alberta
BC	British Columbia
MB	Manitoba
NB	New Brunswick
NF	Newfoundland
NS	Nova Scotia
NT	Northwest Territories
ON	Ontario
PE	Prince Edward Island
QC	Quebec
SK	Saskatchewan
YT	Yukon
NU	Nunavut
AK	Alaska
AL	Alabama
AR	Arkansas
AS	American Samoa

AZ	Arizona
CA	California
CO	Colorado
CT	Connecticut
DC	District of Columbia
DE	Delaware
FL	Florida
FM	Federated States of Micronesia
GA	Georgia
GU	Guam
HI	Hawaii
IA	Iowa
ID	Idaho
IL	Illinois
IN	Indiana
KS	Kansas
KY	Kentucky
LA	Louisiana
MA	Massachusetts
MD	Maryland
ME	Maine
MH	Marshall Islands
MI	Michigan
MN	Minnesota
MO	Missouri
MP	Northern Mariana Islands
MS	Mississippi
MT	Montana
NC	North Carolina
ND	North Dakota
NE	Nebraska
NH	New Hampshire
NJ	New Jersey
NM	New Mexico
NV	Nevada
NY	New York
OH	Ohio
OK	Oklahoma
OR	Oregon
PA	Pennsylvania
PR	Puerto Rico

PW	Palau
RI	Rhode Island
SC	South Carolina
SD	South Dakota
TN	Tennessee
TX	Texas
UT	Utah
VA	Virginia
VI	Virgin Islands
VT	Vermont
WA	Washington
WI	Wisconsin
WV	West Virginia
WY	Wyoming

**Corresponding Data Elements**

Provider\_Province\_State (4.4.2.3.c)

Recipient\_Province\_State (4.5.2.2.c)

PHN\_Province (4.6.2.1)

Patient\_Address\_Province\_State (4.6.2.3.c)

Contact\_Address\_Province\_State (4.7.2.2.c)

**Comments**

Nunavut is currently not listed in the Canada Post Province Codes. NU is suggested to be used.

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**ISO: Country****Code Set**

Country names (official short names in English) in alphabetical order as given in ISO 3166-1 and the corresponding ISO 3166-1-alpha-2 code elements.

**Corresponding Data Elements**

Provider\_Country (4.4.2.3.e)

Recipient\_Country (4.5.2.2.e)

Patient\_Country (4.6.2.3.e)

Contact\_Country (4.7.2.2.e)

**HL7: TelecommunicationAddressUse****Code Set**

BIR	Birthplace
HP	Primary Home
HV	Vacation Home
TMP	Temporary Address
WP	Workplace
AS	Answering Service
EC	Emergency Contact
MC	Mobile Contact
PG	Pager

**Corresponding Data Elements**

Provider\_Telecom\_Use (4.4.2.4)  
Recipient\_Telecom\_Use (4.5.2.3)  
Patient\_Telecom\_Use (4.6.2.4)  
Contact\_Telecom\_Use (4.7.2.3)

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**HL7: URLScheme****Code Set**

fax	Fax
file	File
ftp	FTP
http	HTTP
mailto	Mailto
modem	Modem
nfs	NFS
tel	Telephone
telnet	Telnet
Cell	Cellular Phone

**Corresponding Data Elements**

Provider\_Telecom\_Value (4.4.2.4)  
Recipient\_Telecom\_Value (4.5.2.3)  
Patient\_Telecom\_Value (4.6.2.4)  
Contact\_Telecom\_Value (4.7.2.3)

**Comments**

Cell was added as an extension to the HL7 vocabulary.

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**e-MS: Urgency**

**Code Set**

U	Urgent (call)
E	Expedite (call)
R	Routine

**Corresponding Data Elements**

eMS\_Purpose\_Urgency (5.1.2.5)

**HL7: AdministrativeGender**

**Code Set**

M	Male
F	Female
U	Undifferentiated

**Corresponding Data Elements**

Patient\_Gender (4.6.2.6)

**HL7: PersonalRelationshipRoleType**

**Code Set**

AUNT	Aunt
CHLDADOPT	Adopted Child
CHLDFOST	Foster Child
CHLDINLAW	Child in law
NCHLD	Natural Child
STPCHLD	Step Child
COUSIN	Cousin
DOMPART	Domestic Partner
GGRFTH	Great Grandfather
GGRMTH	Great Grandmother
GRNDDAU	Granddaughter
GRNDSO	Grandson
GRFTH	Grandfather
GRMTH	Grandmother
NEPHEW	Nephew
NIECE	Niece
FTH	Father
MTH	Mother
NFTH	Natural Father
NMTH	Natural Mother
FTHINLAW	Father-in-law
MTHINLAW	Mother-in-law

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MTHINLAW	Mother-in-law
STPFTH	Stepfather
STPMTH	Stepmother
ROOM	Roommate
BRO	Brother
HBRO	Half brother
HSIS	Half sister
NBRO	Natural Brother
NSIS	Natural Sister
BROINLAW	Brother-in-law
SISINLAW	Sister-in-law
SIS	Sister
STPBRO	Step brother
STPSIS	Step sister
SIGOTHR	Significant other
HUSB	Husband
WIFE	Wife
UNCLE	Uncle
FRND	Unrelated friend
NBOR	Neighbor

**Corresponding Data Elements**

Contact\_Relationship\_Type (4.7.2.1)

**ICD-9 diagnostic codes**

**Code Set**

ICD9 code set

**Corresponding Data Elements**

Active\_Condition\_Section\_Code (5.5.2.4)

Past\_Condition\_Section\_Code (5.7.2.4)

**HL7: Allergy Type**

**Code Set**

DA	Drug Allergy
FA	Food Allergy
MA	Miscellaneous Allergy
MC	Miscellaneous Contraindication

**Corresponding Data Elements**

Allergy\_Type (5.11.2.4)

## **HL7: Allergy Severity**

### **Code Set**

MI	Mild
MO	Moderate
SV	Severe

### **Corresponding Data Elements**

Allergy\_Severity (5.11.2.7)

## **BCCDC: BC Vaccination Codes**

### **Code Set**

ID	Agent Code	Agent Code Description
61	aP	Acellular Pertussis
187	RHOGAM	Anti-Rho (D) Immune Globulin
15	BAtox	Botulism Antitoxin
19	CHOL	Cholera
194	CHOL+ETEC	Cholera and Enterotoxigenic E.Coli
24	D	Diphtheria
21	DAtox	Diphtheria Antitoxin
27	DT	Diphtheria Tetanus - Paediatric
13	DTP	Diphtheria Tetanus Polio - Paed
26	DTwP-P	Diphtheria Tetanus wPertussis, iPolio
53	SCHK	Diphtheria Toxin for Schick Test
25	DTwP	Diphtheria, Tetanus wPertussis - Paed
193	DTaP	Diphtheria, Tetanus, acellular Pertussis
59	DTaP-P	Diphtheria, Tetanus, aPertussis, iPolio
58	DTaP-P-Hib	Diphtheria, Tetanus, aPertussis, iPolio, Hib
7	DTwP-P-s	Diphtheria, Tetanus, Pertussis, iPolio (study)
191	DTwP-P-H-s	Diphtheria, Tetanus, wPertussis, iPolio, Hib (study)
44	DTwP-P-Hib	Diphtheria, Tetanus, wPertussis, iPolio, Hib
33	Hib	Haemophilus influenzae type b
31	HA	Hepatitis A
63	HAHB	Hepatitis A and B
32	HB	Hepatitis B
52	HB (study)	Hepatitis B (study)
30	HBIG	Hepatitis B Immune Globulin
35	Hib study	Hib study
37	Ig	Immune Globulin
5	IPV study	Inactivated Polio Vaccine (study)
28	FLU	Influenza
36	IPV	Injectable Polio Vaccine
10	E	Japanese Encephalitis
38	M	Measles
49	MMR	Measles Mumps Rubella

40	MMR	Measles Mumps Rubella
8	MR	Measles Rubella
184	MEN-C-C	Meningococcal-Conjugate-C
183	MEN-P-AC	Meningococcal-Polysaccharide-AC
39	MEN-P-ACWY	Meningococcal-Polysaccharide-ACWY
41	Mu	Mumps
46	PLAG	Plague
186	PNEU-C-7	Pneumococcal Conjugate C-7
62	PNEU-P-23	Pneumococcal-Polysaccharide-23
42	OPV	Polio
197	MEN-ACWY-s	Quadravalent Meningococcal (study)
47	RAB	Rabies
49	RIG	Rabies Immune Globulin
65	RSVlg	Respiratory Syncytial Virus Immune Globulin
50	R	Rubella
48	SnakAven	Snake Antivenom
17	spidAven	Spider Antivenom
14	T	Tetanus
192	TdaP	Tetanus Diphtheria aPertussis - adults
1	TIG	Tetanus Immune Globulin
55	Td	Tetanus, Diphtheria - adult
196	TdcP-s	Tetanus, Diphtheria, control Pertussis (study)
56	TdP	Tetanus, Diphtheria, Polio - adults
51	TdwP-s	Tetanus, Diphtheria, wPertussis - (study)
54	TBN	Tuberculin Purified Protein Derivative
16	BCG	Tuberculosis Vaccine (Bacille Calmette-Guerin)
11	TYPH-IM	Typhoid Intramuscular
12	TYPH-O	Typhoid Oral
2	TYPH	Typhoid Vaccine (discontinued)
64	VZ	Varicella Zoster
3	VZIG	Varicella Zoster Immune Globulin
45	wP	wPertussis
4	YF	Yellow Fever

### Corresponding Data Elements

Immunization\_Code (5.12.2.4)

**HL7: MedAdministrationRoute****Code Set**

PO	per os
SL	sublingual
PR	rectal
IH	per inhalation
OP	ophtalmic
NS	nasal
OT	otic
VG	vaginal
ID	intra-dermal
SC	subcutaneous
IV	intra-venous
IC	intra-cardial

**Corresponding Data Elements**

Med\_Administration\_Route (5.6.2.8)

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**HL7: ActEncounterCode****Code Set**

AMB	Ambulatory
EMER	Emergency
FLD	Field
HH	Home Health
ACUTE	Inpatient Acute
NONAC	Inpatient non-acute
VR	Virtual
SP	Specialist

**Corresponding Data Elements**

Referral\_Type (5.14.2.5)

**Comments**

"Specialist" was not part of the HL7 vocabulary and was added to this list.

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**BC Lab Standard: Diagnostic Facilities Listing****Code Set**

BC Diagnostic Facilities Listing

**Corresponding Data Elements**

Labs\_Source (5.13.2.9)

**Comments**

A listing of facilities can be obtained from the e-MS project team.

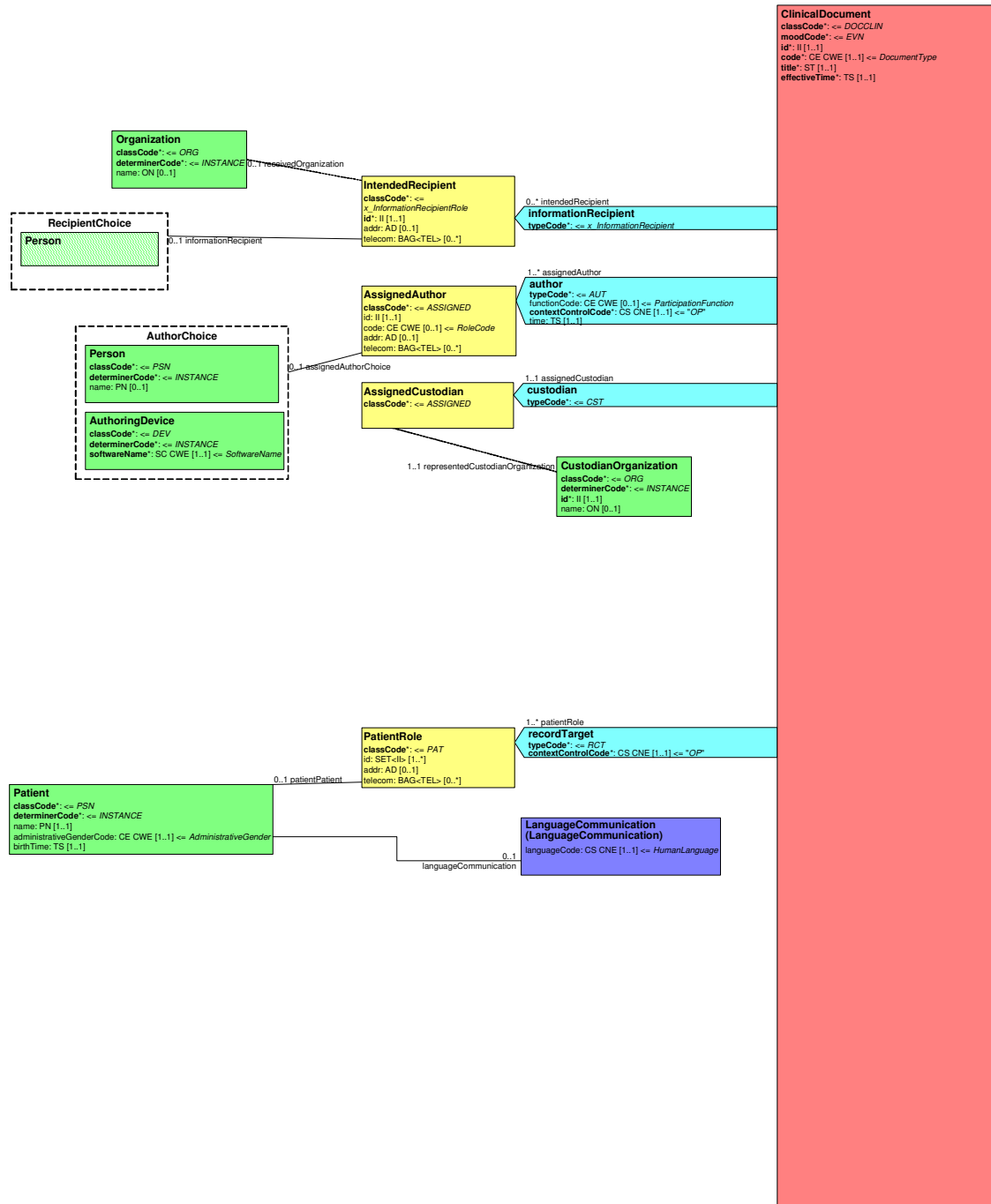
## **GUIDs and Registered OIDs**

### **Code Set**

2.16.840.1.113883.6.1	LOINC
2.16.840.1.113883.5.1	HL7 – Administrative Gender
2.16.840.1.113883.5.112	HL7 – Administration Route
2.16.840.1.113883.12.128	HL7 – Allergy Severity
2.16.840.1.113883.6.2	ICD9
4CE7AB40-0B8B-4a9f-B232-FF5CACCE7D91	Assigned Author
7EEF0BCC-F03E-4742-A736-8BAC57180C5F	Represented Custodian Organization
DCCD2C68-389B-44c4-AD99-B8FB2DAD1493	Intended Recipient
2BFBA1E9-79C2-4bbb-B589-41B949BD6A3B	BC-PHN
F05716F7-BA77-4641-A8D8-6E3948CCD321	HL7 – Personal Relationship Role Type
2A9DDF65-2465-4cf7-903C-832A33B22F5D	HL7 – Allergy Type
4FE1CC50-FBDC-44a6-A005-A49E9F7A6DA9	HL7 – Act Encounter Code
7BA9BFFD-D25F-44e8-A7B0-0DF214D6845B	e-MS Document Section Codes
B39DD860-FE4E-4025-820B-83BAEBD08EA2	e-MS Data Element Codes
36F030E1-180A-4c53-AEF6-7EEA32B531B3	DIN
FC1AFD51-7DC6-404c-9B06-C3234B850B65	BCCDC Immunization Codes
03B429EA-4C1A-4656-9F29-2E5A61B118B9	e-MS Lab Result (Abnormal Result Flag)
476CAE01-D4E8-4894-A007-EF55064175D0	MSP Lab Source Systems

## Appendix G – e-MS CDA Model

### Header



## Body

