Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile

Only results for a single reportable condition from a single specimen from a single subjet (human or non-human) are present

The document will have either a human patient or a non-human living subject. The only permissible case for documenting both in relation to this kind of report is when there is a non-human test subject that is directly associated with a human (ex. animal bites human). In this case the patient's information is filled out in the ClinicalDocument/recordTarget and the non-human test subject information is filled out in the body of the CDA in the subject sub-element of the specimen organizer.

XDS Metadata attributes listed as correlated to CDA Header elements are subject to transformation (re-formatting, re-coding) and context interpretation before becoming metadata.

The following XDS Metadata attributes do not correlate with any element in the CDA Header: All SubmissionSet Metadata, All Folder Metadata, DocumentEntry.availiabilityStatus, DocumentEntry.entryUUID, DocumentEntry.formatCode, DocumentEntry.hash, DocumentEntry.mimeType = 'text/xml', DocumentEntry.patientId, DocumentEntry.size, DocumentEntry.URI

We need a common specimen id to link documents together that concern the same specimen. This information will be incoded in ClinicalDocument/documentationOf/serviceEvent/id, code, and should also be included in the XDS-Lab profile (need CP).

We will allow multiple codes as XDS Document Entry Metadata eventCodes concerning the reportable condition. These will range from the "generic" condition (ex. Influenza) and to others for a more specific genus species documentation (ex. Influenza H1N1).

We have yet to determine the concepts that are acceptable to be included among the DocumentEntry.eventCodeList codes. Currently the concepts that we allow are: Reportable Condition, Specimen Type

Required elements of the CDA will align with XDS-Lab … and possibly be refined. These requirements are not denoted in this document at this time.

Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile - CDA Header

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
NO CONCEPT	ClinicalDocument/realmCode		set to appropriate two letter country code (example - 'US').
NO CONCEPT	ClinicalDocument/typeId		set to appropriate id
NO CONCEPT	ClinicalDocument/templateId		set to appropriate id (we should use XDS-Lab or a new one we generate for this profile).
Report ID	ClinicalDocument/id@extension, ClinicalDocument/id@root	uniqueId	OID for ClinicalDocument/id@root
Document Type	ClinicalDocument/code	typeCode and classCode	Select appropriate code, same as XDS-Lab specifications
NO CONCEPT	ClinicalDocument/title	title	
Creation Date/Time	ClinicalDocument/effectiveTime	creationTime	time of lab report as an electronic document
Confidentiality	ClinicalDocument/confidentialityCode	confidentialityCode	
NO CONCEPT	ClinicalDocument/languageCode	languageCode	
Version Number	ClinicalDocument/versionNumber		
Creation System	ClinicalDocument/author/assignedAuthor/id and ClinicalDocument/author/assignedAuthor/assignedAuthoringDevice/softwareName		

Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile - CDA Header

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Author	ClinicalDocument/author/assignedAuthor/id and ClinicalDocument/author/assignedAuthor/assignedPerson/name	authorPerson	
Author Time	ClinicalDocument/author/time		Could possibly be the same as the Creation Date/Time
Custodian	ClinicalDocument/custodian/assignedCustodian/representedCustodianOrganization/id, name, addr, telcom		This represents who is responsible for the electronic document CDA.
Legal Authenticator	ClinicalDocument/legalAuthenticator/time, signatureCode, assignedEntity/id, addr, telecom, assignedPerson/name	legalAuthenticator	Person to legally authenticate the document, not required.
Order Filler Test Result Clinical Validator	ClinicalDocument/participant/associatedEntity/id, addr, telecom, assignedPerson/name		Person responsible for clinical validation of the content of this document, including all test results (unless this information is 'overridden' at sub-component levels of the xml body). The typeCode attribute on the participant will be set to 'AUTHEN'. No other participant is permitted to have this typeCode value.
Order Filler Test Result Clinical Validation Date/Time	ClinicalDocument/participant/time		Time of clinical validation

Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile - CDA Header

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Global Specimen Id	ClinicalDocument/documentationOf/serviceEvent/id, code		We need a common specimen id to link documents about a single specimen taken from the clinical encounter together. Possibly use the code element to indicate this is a 'global specimen id'.
Order Filler Facility Name and Order Filler Test Result Perfomer	ClinicalDocument/documentationOf/serviceEvent/performer and performer/assignedEntity/representedOrganization		Use when documenting a single result event from a single laboratory (which is our assumption). Otherwise, this information shall be in the body of the CDA.
Lower Time bound on events of the document	ClinicalDocument/documentationOf/serviceEvent/effectiveTime/low	serviceStartTime	
Upper Time bound on events of the document	ClinicalDocument/documentationOf/serviceEvent/effectiveTime/high	serviceStopTime	
NO CONCEPT	ClinicalDocument/parentDocument	parentDocumentRelationship, parentDocumentId	Use when updating an existing report. @typeCode = 'RPLC', 'XFRM', 'APND'
Patient Consent Indicator	ClinicalDocument/authorization/concent		patient's consent, a carryover from XDS-Lab

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Public Health Content Profile - CDA Header

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Encounter Id	ClinicalDocument/componentOf/encompassingEncounter/id		Documents the clinical (or other) encounter that prompted the laboratory work.
Encounter Date/Time	ClinicalDocument/componentOf/encompassingEncounter/effectiveTime		if present, replicate the lower bound of this time as ClinicalDocument/documentationOf/serviceEvent/effectiveTime/low
Encounter Location	ClinicalDocument/componentOf/encompassingEncounter/location/healthcareFacility/code	healthCareFacilityCode and practiceSettingCode	
Human Patient			
Patient ID	ClinicalDocument/recordTarget/patientRole/id	sourcePatientId	
Patient Name	ClinicalDocument/recordTarget/patientRole/patient/name	sourcePatientInfo	
Patient Address	ClinicalDocument/recordTarget/patientRole/addr	sourcePatientInfo	
Patient Telcom	ClinicalDocument/recordTarget/patientRole/telcom	sourcePatientInfo	
Patient Birth Place	ClinicalDocument/recordTarget/patientRole/patient/birthplace		
Patient Birth Time/Date or Age	ClinicalDocument/recordTarget/patientRole/patient/birthTime		

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Public Health Content Profile - CDA Header

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Patient Administrative Sex	ClinicalDocument/recordTarget/patientRole/patient/administrativeGenderCode	sourcePatientInfo	
Non-Human Living Subject (only used when no human patient is directly related to the testing)			
Subject ID	ClinicalDocument/recordTarget/patientRole/id, patient/name	sourcePatientId	The Subject Id goes here. The name will be a default value "NON-HUMAN LIVING SUBJECT". The rest of the subject information will go in the StructuredBody. We will link this Subject Id with the rest of the information in the body using the "ID" attribute which will be refrenced by the subject code. Metadata for this information will need to be extracted from the Structured Body encoding, see third tab.Talk to liora and HL7 about the encoding of non-human subjects.

Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section		This document will only have one section
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/code		Select appropriate code, same as XDS-Lab specifications
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/title		Report title, user specified
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/text		Table(s) containing the information that follows here. Information here shall link to a structured entry via the XML 'ID' attribute. No additional information is permitted to be included that is not in the following structured markup.
entry contents			
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/entry		This section will have a single entry. All data encoded below belongs to this entry.
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/entry@typeCode		set value to "DRIV"
NO CONCEPT	ClinicalDocument/component/structuredBody/component/section/entry/templateId		Set @root to "1.3.6.1.4.1.19376.1.3" and @extension to "Lab.Report.Data.Processing.Entry"
specimen organizer			

Sarah Knoop and Sondra Renly, IBM Almaden Research Center, March 2007

Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
NO CONCEPT	organizer		set @classCode to "CLUSTER" and @moodCode to "EVN", required. This organizer is nested under: ClinicalDocument/component/structuredBody/component/section/entry.
NO CONCEPT	organizer/code		Unique code from which section/code is derived (ie. is an "abstraction of), optional
NO CONCEPT	organizer/statusCode		
Order Filler Test Result Clinical Validator	organizer/participant/participantRole/id, addr, telecom, playingEntity/name		This is included only when this person is different than the one documented in the header (like overriding). This participant applies to the entire specimen organizer (unless overridden again). The typeCode attribute on the participant will be set to 'AUTHEN'. No other participant is permitted to have this typeCode value.

Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Filler Test Result Clinical Validation Date/Time	organizer/participant/time		(time on same participant who is the "Clinical Validator"). This is included only when this person is different than the one documented in the header (like overriding). This participant applies to the entire specimen organizer (unless overridden again). Additionally, if present, replicate the upper bound of this time as ClinicalDocument/documentationOf/serviceEvent/effectiveTime/high.
Non-Human Living Subject (if applicable)			
Subject Species Code	organizer/subject/relatedSubject/code	sourcePatientInfo	Species and breed codes will need to be combined into a single coded value. Encoding this information in XDS Metadata would be a minor extension to XDS Metadata which currently does not allow this portion of the PID.
Subject Breed Code	organizer/subject/relatedSubject/code	sourcePatientInfo	Species and breed codes will need to be combined into a single coded value. Encoding this information in XDS Metadata would be a minor extension to XDS Metadata which currently does not allow this portion of the PID.
NO CONCEPT	organizer/subject/relatedSubject/code/originalText/reference/value		reference to ClinicalDocument/recordTarget/patientRole/id element

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Subject Location	organizer/subject/relatedSubject/addr	sourcePatientInfo	
NO CONCEPT	organizer/specimen		set @typeCode to "SPEC"
NO CONCEPT	organizer/specimen/specimenRole		set @classCode to "ISLT" for isolate
Specimen Number	organizer/specimen/specimenRole/id		
NO CONCEPT	organizer/specimen/specimenRole/specimenPlayingEntity		set @classCode to "MIC" for microbiology
Specimen Type	organizer/specimen/specimenRole/specimenPlayingEntity/code	eventCode	approriate code for blood, urine, stool, etc.
NO CONCEPT	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab. Set @classCode='PRD' and @moodCod'EVN'
Specimen Source Site (on body)	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/targetSiteCode		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab. Choose appropriate code.
NO CONCEPT	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/participant		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab. Set @typeCode='AUT' … to signify the this party is responsible for the collection procedure

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Specimen Collection Site (geographic location)	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/participant/participantRole/id, addr, telecom (optional)		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab.
Specimen Collector	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/performer/assignedEntity/id(required), optional: addr, telcom assignedPerson/name		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab.
Specimen Collecting Method	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/code		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab.
Specimen Collection Date/Time	organizer/specimen/specimenRole/productOf(Participant)/ procedure (Procedure)/effectiveTime		THIS IS AN EXTENSION TO THE CDA SCHMA from XDS-Lab. If Encounter Date/Time is not present, replicate the lower bound of this time as ClinicalDocument/documentationOf/serviceEvent/effectiveTime/low
Specimen Received Date/Time	organizer/participant/time		This goes with the "Order Filler System" participant.
Order Provider	organizer/participant/participantRole/id, addr, telcom, playingEntity/name (all optional)		Will have to use participant/@typeCode (='REFB' = 'referred by', closest match given controlled vocabulary) to indicate this is the "Order Provider".

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Enterer	organizer/participant/participantRole/id, addr, telcom, playingEntity/name (all optional)		Will have to use participant/@typeCode (="ENT for 'enterer') to indicate this is the "Order Enterer".
Order Placer Facility Name	organizer/participant/participantRole/addr, telcom in which the facility name is encoded addr/additionalLocator		We can only encode the name as part of the addr or telcom of the facility.This goes with the "Order Placer System" participant.
Order Placer Order Number	organizer/participant/participantRole/scopingEntity/id		This goes with the "Order Placer System" participant.
Order Placer System	organizer/participant/participantRole/id, playingDevice/softwareName		Will have to use participant/@typeCode (='AUT' for 'author (originator)' per CDA R2 documentation: "A party that originates the Act ... Example: the report writer, the ... the placer of an order") to indicate this is the "Order Placer System".
Order Placer Creation Date/Time	organizer/participant/time		This goes with the "Order Placer System" participant
Order Filler Order Number	organizer/participant/participantRole/scopingEntity/id		This goes with the "Order Filler System" participant

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Filler System	organizer/participant/participantRole/id, playingDevice/softwareName		Will have to use participant/@typeCode (='PRF' for 'performer' as dictated by CDA R2 Documentation "the traditional order filler is a performer.") to indicate this is the "Order Filler System".
reportable condition organizer			
NO CONCEPT	organizer		set @classCode to "CLUSTER" and @moodCode to "EVN", required. This organizer is sub-element of the specimen organizer.
Reportable Condition	organizer/code	eventCode(s)	Code(s) for reportable condition (ex. Salmonella, Influenza, Anthrax, etc.)
NO CONCEPT	organizer/code/originalText/reference		link to the row or column of the table in which this result is displayed to the user, if necessary (ex. multiple reportable conditions)
NO CONCEPT	organizer/statusCode		set to "completed"
test battery organizer (if applicable)			

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
NO CONCEPT	organizer		set @classCode to "BATTERY" and @moodCode to "EVN", required. If there is a battery of tests associated with a reportable condition … need yet another organizer to denote this. Battery tests will be grouped under this organizer. This organizer is sub-element of the reportable condition organizer.
NO CONCEPT	organizer/code		Code for specific Battery type (ex. Antibiotic Susceptibility Tests)
NO CONCEPT	organizer/statusCode		set to "completed"
test result observation			
NO CONCEPT	component/observation		set @classCode to "OBS" and @moodCode to "EVN", required. This observation is sub-element of the reportable condition organizer if the test is not a part of a battery. If the test is a part of a test battery, then this is a sub-element of the battery test organizer
Order Filler Service ID	component/observation/id		first of 3 ids (restricted order: most general to least). Use a different root OID to distinguish this id from the others.

Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Filler Diagnostic Service Section ID	component/observation/id		second of 3 ids (restricted order: most general to least) Use a different root OID to distinguish this id from the others.
Order Filler Test ID	component/observation/id		third of 3 ids (restricted order: most general to least) Use a different root OID to distinguish this id from the others.
NO CONCEPT	component/observation/code/originalText/reference@value		xml reference to the row or column of the table in which this result is displayed to the user
Order Filler Test Result	component/observation/value		
Order Filler Test Result Data Type	component/observation/value		
Order Filler Test Result Unit	component/observation/value		
Order Filler Test Result Reference Range	component/observation/referenceRange/observationRange/value		
Order Filler Test Result Flags	component/observation/interpretationCode		

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Filler Test Result Date/Time	component/observation/effectiveTime		
Order Filler Test Result Comments	component/observation/text		
Order Filler Test Result Method	component/observation/methodCode		
Order Filler Test Result Perfomer	component/observation/performer/assignedEntity/id(required), optional: addr, telcom, assignedPerson/name		This is included only when this performer is different than the one documented in the header (like overriding).
Order Filler Test Result Enterer	component/observation/participant/participantRole/id, addr,telcom,playingEntity/name (all optional)		Will have to use participant/@typeCode (='ENT' for enterer) to indicate this is the "Result Enterer".
Order Filler Test Result Enter Date/Time	component/observation/participant/time		(time on same participant who is the "Result Enterer")
Order Filler Test Result Technical Validator	component/observation/participant/participantRole/id, addr,telcom,playingEntity/name (all optional)		Will have to use participant/@typeCode (='VRF' for verifier) to indicate this is the "technical Validator".
Order Filler Test Result Technical Validation Date/Time	component/observation/participant/time		(time on same participant who is the "Technical Validator")

Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes
Order Filler Test Result Clinical Validator	component/observation/participant/participantRole/id, addr, telecom, playingEntity/name		This is included only when this person is different than the one documented in the specimen organizer (like overriding). This participant applies to the entire observation. The typeCode attribute on the participant will be set to 'AUTHEN'. No other participant is permitted to have this typeCode value.
Order Filler Test Result Clinical Validation Date/Time	component/observation/participant/time		(time on same participant who is the "Clinical Validator"). This is included only when this person is different than the one documented in the specimen organizer (like overriding). This participant applies to the entire observatio. Additionally, if this information is not at the specimen organizer level, then the maximum time among all validated resultes is replicated in ClinicalDocument/documentationOf/serviceEvent/effectiveTime/high.
Order Filler Test Result Reporter	component/observation/participant/participantRole/id, addr,telcom,playingEntity/name (all optional)		Will have to use participant/@typeCode (AUT= 'author or originator' for)to indicate this is the "Result Reporter".
Order Filler Test Result Report Date/Time	component/observation/participant/time		(time on same participant who is the "Result Reporter").

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Public Health Content Profile - CDA StructuredBody

CONCEPT	CDA R2/XDS-Lab Encoding	XDS Document Entry Metadata	Notes