



Health Coordination Network (HCN) Program Data Submission Guide

Version 3.0

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INTRODUCTION

Background

Health Coordination Network (HCN) (formerly the Emergency Department Care Coordination) Program is a statewide technology solution to support data sharing between all hospitals, health plans, and healthcare providers in Virginia. The HCN approach facilitates near real-time communication and collaboration among licensed providers and the various levels of care management personnel. This supports a person-centered network to improve the quality of client services at the point of care and within the care management continuum.

In 2017, legislation was introduced beginning the initial work to bring in data from hospital emergency departments, and Managed Care Organizations. In 2019, VHI began administering the state designated Health Information Exchange (HIE) and all its programs including this data from all participating providers, and health plans. In 2023, new legislation passed expanding the scope of mandatory data collection beyond emergency departments to include every hospital in the Commonwealth including: care coordination plans, laboratory results, images, and information related to discharge, treatment, and care coordination. In 2026, state legislation renamed the program to the Health Coordination Network (HCN).

The mandatory expansion for data capture to support HCN includes Admit, Discharge, and Transfer (ADT) data, laboratory (LAB), Radiology (RAD) imaging data, Transcription (TRN), and Consolidated Clinical Document Architecture (C-CDA). The HCN program is better supported through the connectivity of all available data elements from all participating organizations. VHI has the infrastructure to support comprehensive data sets, and this guide will provide the general overview for the standard data submissions.

Comprehensive specification documents are cited throughout this summary and linked within the Useful Resources section and the Appendix. These specification documents provide comprehensive data submission information for the various data feeds.

Health Coordination Network Program

HCN supports: Risk identification with real-time analytics, notifications through risk-based alerts within the existing provider workflow, Care Team visibility to foster collaboration to fully support patients, shared Care Plans within the HIE to ensure vendor agnostic access to the longitudinal health record for patients, and flags to increase awareness of conditions identified by program stakeholders. Hospitals and Health Systems can view information via a report integrated within the ED trackboard or access information via a web-based portal.



The HCN program alerts and reports are initiated by a qualifying encounter, which triggers a real time notification for the care team members. The following are the standard notifications supported within the HCN program:

| Core Criteria | BH/ SUD Criteria: (History of) |
|---------------------------------------------------------------------|--------------------------------------------------------------------------|
| High Utilizing Patients 5+ ED encounters within 12 months | ED Visit with Mental/Behavioral Health Dx |
| Rising Risk 3+ ED encounters within 90 days | ED Visit with Suicidal Ideation, Suicide Attempt and/or Self Harm |
| All ED Encounters Any Emergency Department encounter | ED Visit with Opioid Overdose |
| All Inpatient Encounters | ED Visit with Alcohol Abuse |
| All SNF Encounters | ED Visit with Opioid Use Disorder |
| MDRO Laboratory Results | High Risk Pregnancy |
| | Pregnant or 12 months postpartum |

Useful Resources

VHI_ADT_Specification

VHI_Outbound_ADT_Specification

VHI_LAB_RAD_TRN_Specification

VHI_C-CDA_Specification

ACRONYMS AND DEFINITIONS

Admin, Discharge, and Transfer message (ADT) messages capture patient demographic information.

Behavioral Health (BH)

Continuity of Care Document (CCD)

Consolidated Clinical Document Architecture (C-CDA) messages include comprehensive encounter information with patient health summaries, discharge summaries, and continuity of care documents.

Code on Dental Procedures and Nomenclature (CDT)

CVX (not an acronym) The official abbreviation for the vaccines administered code set, includes both active and inactive vaccines available in the US.

Diagnosis (Dx)

Diagnosis (DG1) diagnosis segment within HL7 contain patient information including diagnosis, description, date, and coding method for each individual diagnosis within a message.

Emergency Department (ED)

Emergency Department Care Coordination Program (EDCC) Previous name of the program when the original legislation passed in 2017.

Health Coordination Network (HCN) Legislation in 2026 changed the program name from EDCC to HCN.

Health Level Seven (HL7) is a standardized message set for exchanging electronic health information between systems.

Healthcare Service location Codes (HSLOC) Codes in the value set authority center.

International Classification of Functioning, Disability, and Health (ICF)

Laboratory (LAB) messages include standardized laboratory test orders and results.

Multi-Drug Resistant Organism (MDRO)

National Association of Health Data Organizations (NAHDO) source of payment typology.

National Healthcare Safety Network (NHSN)

National Uniform Claim Committee (NUCC)



Object Identifier Definition (OID) HL7 Object Identifier is a unique, globally registered, numerical value assigned to identify individual healthcare organizations, systems, coding systems, devices, etc.

Observation Result (ORU) message, in the context of HL7 messaging, is a structured report that transmits patient observational results, such as laboratory results, imaging reports, or other clinical findings, between different healthcare systems.

Observation/Result Segment (OBX)

Patient Allergy Information (AL1) segment in HL7 standard communicates patient's allergies.

Patient Identification (PID) segment in HL7 standard used by all applications as the primary means of communicating patient identification.

Patient Visit (PV1) segment in HL7 standard communicates core information about a patient's visit or account.

Patient Visit (PV2) segment in HL7 standard provides supplemental or more specific details about the patient's visit that continue the information from the PV1.

PointClickCare (PCC) is a third-party technology vendor for the HCN Program.

Procedures Segment (PR1) segment in HL7 standard used to send procedure information.

Radiology (RAD) messages include the radiology results of medical imaging.

Skilled Nursing Facility (SNF)

Substance Use Disorder (SUD)

Transcription (TRN) messages include standardized information for transcribed documents.

Unified Code for Units of Measure (UCUM)

United States Core Data for Interoperability Standards (USCDI) maintains standardized sets of health data classes and elements to be utilized nationwide to support interoperability in health records.

Value Set Authority Center (VSAC)

Virginia Health information (VHI)



STANDARD ADT DATA SUBMISSION

ADT Introduction

VHI utilizes the technology infrastructure of a third-party technology vendor. This guide dictates the format and context of *required* and *required if available* ADT message types, segments, and fields. VHI prefers HL7 version 2.5.1 messages but will accept well-formed HL7 2.x messages.

VHI requires data providers to include all required data elements in their feeds (denoted by an **R** in the "use" column of the segment tables). VHI also requires data providers to include all 'required if available' data elements, if they are available, (denoted by an **E** in the "use" column of the segment tables). VHI would like all optional data elements sent when available (denoted by an **O** in the "use" column of the segment tables). The value of VHI is directly related to the quality of accurate, consistent, and complete information. The inclusion of all required data elements increases the value of VHI to users and patients. Consequently, it is imperative that participants send all required and 'required if available' data elements through the interfaces. The data elements described throughout this guide should be submitted in addition to any and all existing data feeds between healthcare entities and VHI.

ADT Data Submission Parameters

VHI requires facilities to share data that meets the latest USCDI standards. The USCDI is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange. Please refer to <https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi> for complete details regarding USCDI standards and latest requirements.

If any USCDI data elements are unable to be sent via HL7 ADT V2, they must/should send data in C-CDA V3. Examples include AL1, DG1, PR1, OBX, PV2, etc.

The lists within this guide are not exhaustive and should be provided in addition to all fields already being shared with VHI through existing data connections.

Supported ADT Message Types

For this section - only R: Required Segment, C: Conditional, O: Optional Segment, i: Repeating Segment, G: Grouped Segment

| Message Type/Trigger | Description | MSH | EVN | PID | PD1 | NK1 | PV1 | PV2 | OBX | IAM | AL1 | NTE | DG1 | PR1 | GT1 | IN1 | IN2 | IN3 | ACC | UB2 |
|----------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|-----|-----|-----|-----|-------|-----|-----|
| ADT_A01 | Admit / Visit notification | R | R | R | O | R,i | R | R | R,i | | R,i,G | O,i,G | R,i | C,G | O,i | C,G | O,G | O,i,G | O | O |
| ADT_A02 | Transfer | R | R | R | O | | R | O | O,i | | | | | | | | | | | |
| ADT_A03 | Discharge / End visit | R | R | R | O | R,i | R | R | | | R,i,G | O,i,G | R,i | CG | O,i | C,G | O,G | O,i,G | O | |
| ADT_A04 | Register a patient | R | R | R | O | R,i | R | R | R,i | | R,i,G | O,i,G | R,i | C,G | O,i | C,G | O,G | O,i,G | O | O |
| ADT_A05 | PreAdmit | R | R | R | O | O,i | R | O | O,i | | O,I,G | | O,i | | O,i | R | O,G | O,i,G | O | O |

| Message Type/Trigger | Description | MSH | EVN | PID | PD1 | NK1 | PV1 | PV2 | OBX | IAM | AL1 | NTE | DG1 | PR1 | GT1 | IN1 | IN2 | IN3 | ACC | UB2 |
|----------------------|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|-----|-----|-----|-----|-------|-----|-----|
| ADT_A06 | Change an outpatient to an inpatient | R | R | R | O | | R | O | R,i | | R,i,G | O,i,G | R,i | C,G | O,i | C,G | O,G | O,i,G | O | O |
| ADT_A07 | Change an inpatient to an outpatient | R | R | R | O | O,i | R | O | | | O,i,G | | O,i | R | O,i | R | O,G | O,i,G | O | O |
| ADT_A08 | Update patient information | R | R | R | O | R,i | R | O | R,i | | R,i,G | O,i,G | R,i | C,G | O,i | C,G | O,G | O,i,G | O | O |
| ADT_A11 | Cancel patient admit | R | R | R | O | | R | O | O,i | | | | O,i | | | | | | | |
| ADT_A12 | Transfer cancellation | R | R | R | O | | R | O | O,i | | | | O,i | | | | | | | |
| ADT_A13 | Cancel patient discharge | R | R | R | O | O,i | R | O | O,i | | O,i,G | | O,i | R | O,i | R,G | O,G | O,i,G | O | O |
| ADT_A28 | Add person information | R | R | R | O | R,i | R | O | O,i | | O,i,G | O,i,G | O,i | O,i | O,i | O,G | O,G | O,i,G | O | O |
| ADT_A29 | Delete person information | R | R | R | O | | R | O | O,i | | | | | | | | | | | |
| ADT_A31 | Update person information | R | R | R | O | R,i | R | O | R,i | | O,i,G | O,i,G | O,i | C,G | O,i | C,G | O,G | O,i,G | O | O |
| ADT_A38 | Cancel PreAdmit | R | R | R | O | | R | O | O,i | | | | O,i | | | | | | | |

Support ADT Message Format

VHI can accept ADT versions 2.3, 2.5 and 2.8 with a preference for 2.5 or later. Client to identify the event types (i.e. A01, A03) expected.

ADT Required Message Segments

| KEY - SEGMENT ATTRIBUTES | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Abbreviation | Definition |
| Len | <p>Maximum length of the element. Length of an element is calculated using the following rules:</p> <p>Field length = (Sum of all supported component lengths) + (component number of the last supported component) – 1.</p> <p>Component length = (Sum of all supported sub-component lengths) + (sub-component number of the last supported component) – 1.</p> |
| DT | Data type used for HL7 element. (Refer to Chapter 2A of HL7 V2.5 standard) |
| HL7 Element Name | HL7 descriptor of the element in the segment. |

ADT Data Element Sender Usage

| | | |
|----------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R | Required | Element must be sent with sub-elements populated according to the definition. |
| RE | Required, May be Empty | If the sender captures the data, the data must be sent in the specified segment. |
| C (R/E) | Conditional | When conditionality predicate evaluates to "True", the segment usage is in effect. If CR, the usage is R when the condition is true. If CE, the usage is RE if the condition is met. |
| O | Optional | The following elements are optional. |
| P | Preferred | The following element is optional, but the HIE prefers to collect it. |

ADT Data Type Definitions

| | |
|-----|----------------------------------------------|
| MSH | Message Header Segment |
| EVN | Event Type Segment |
| PID | Patient Identification Segment |
| PD1 | Patient Additional Demographic Segment |
| NK1 | Next of Kin / Associated Parties Segment |
| PV1 | Patient Visit Segment |
| PV2 | Patient Visit Additional Information Segment |
| OBX | Observation Result Segment |
| IAM | Patient Adverse Reaction Information Segment |
| AL1 | Patient Allergy Information Segment |
| NTE | Notes and Comments Segment |
| DG1 | Diagnosis Segment |
| PR1 | Procedures Segment |
| GT1 | Guarantor Segment |
| IN1 | Insurance Segment |
| IN2 | Additional Insurance Segment |
| IN3 | Pre-certification Information Segment |
| ACC | Accident Segment |
| UB2 | Universal Bill 92 Segment |
| Z | Custom Segments |

ADT Data Element Specifications

Comprehensive inbound interface specifications available within the: VHI_ADT_Specification document



STANDARD LAB, RAD, TRN DATA SUBMISSION

LAB, RAD, TRN, Introduction & Submission Types

Laboratory (LAB) Results

VHI processes laboratory results data based on the same hierarchy as ADT and transcription messages. VHI acknowledges ORU-R01 messages used to transmit result data, register clinical trials, and for other medical reporting purposes.

Observations reported can include clinical lab results, EKG pulmonary study results, patient condition, and other health data.

Radiology (RAD) Results

Radiology reports can be sent as ORU-R01 or MDM messages. ORU-R01 is preferred. Alternatively, the result report can be contained in either OBX and/or NTE segments. All radiology and results will be treated as free text. Please send finals only.

Radiology messages may include radiology procedure results.

Transcription (TRN) Messages

Transcriptions can be sent as ORU-R01 or MDM messages. All transcription results will be treated as free text. Please send finals only.

Transcription messages may include care notes, care alerts, discharge summaries, or lab, radiology or procedure results.

LAB, RAD, TRN Data Submission Parameters

VHI requires facilities to share data that meets USCDI standards. The USCDI is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.

Please refer to <https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi> for complete details regarding USCDI standards and latest requirements.

LAB, RAD, TRN Supported Message Types

LAB

| Segment | Description |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSH | Message Header. This segment contains information about the message sender and receiver, the date and time that the message was created. This segment is required. |
| PID | Patient Identification. In this example, the ORM message being sent is related to a particular patient, and therefore it needs to include patient-specific information such as the patient identifier, name, date of birth, etc. If the order was not created for a particular patient, this segment would not be included in the overall message. This segment is required. |
| [PD1] | Patient Additional Demographics. Here is where you would include the name and ID number of the primary facility where a patient is receiving care, as well as the name and ID number of the ordering provider. This segment is optional. |
| PV1 | Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required. |
| ORC | Common Order. Here is where the order details are held. Patient orders are typically classified as New Orders (NW), so this distinction is included in this example. Additionally, information about the order number from the source system, the order number for the filing system, and the date and time of when the order was created. It also contains the ordering provider, the order transcriber, the facility or department ID related to the order, and the callback information for any questions about the order are all contained within this segment. This segment is required. |
| OBR | Observation Request. If an order requires additional information, such as medical codes that identify the reason for the order, it would be included in this segment. Information about the ordering provider and the results interpreter would be included here as well. This segment is conditional. |
| [DG1] | Diagnosis. Medical contexts, such as ICD-10 codes describing the diagnosis, are provided here so billing systems to properly identify and apply charges for the procedure. This segment is optional. |
| [] = optional, { } = repeating | |

RAD

| Segment | Description |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSH | Message Header. This segment is a mandatory part of an ORU message, and contains information about the message sender and receiver, the date and time that the message was created. This segment is required. |
| PID | Patient Identification. An ORU message is a patient-specific message type and must be linked to a particular patient. Therefore, patient information such as the patient identifier, name, date of birth, etc. must be included in an ORU. This segment is required. |

| Segment | Description |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PV1 | Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required. |
| OBR | Observation Request. This segment identifies the observation that was ordered to generate the ORU message. This segment is required. |
| [{OBX}] | Observation Segment. Here is where information about the observation results is held. An OBX segment is used to communicate a single observation, so multiple observations would require this segment to be repeated. This segment is optional and can be repeating. |
| [{NTE}] | Notes Segment. Here is where notes and comments about the observation results and often follow the OBX segment. This segment is optional but preferred and can be repeating. |
| [{CTI}] | Clinical Trial Identification. This is an optional segment and is only used if the results need to be linked to a clinical trial. Information such as the trial ID, study phase, and time point is included here. This segment is optional and can be repeating. |
| [] = optional, { } = repeating | |

TRN

| Segment | Description |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSH | Message Header. This segment is a mandatory part of the MDM message, and contains information about the message sender and receiver, the date and time that the message was created. This segment is required. |
| EVN | Event Type. Communicates the event that occurred for the message to be generated. This segment is a crucial part of the data flow, as it indicates where and when a message is sent based on the type of event. This is a required segment and T02 is the most common event type. |
| PID | Patient Identification. An MDM message is a patient-specific message type and must be linked to a particular patient. Therefore, patient information such as the patient identifier, name, date of birth, etc. must be included in an MDM. This segment is required. |
| PV1 | Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required. |
| OBR | Observation Request. This segment identifies the observation that was ordered in order to generate the ORU message. This segment is required. |
| TXA | Document Notification. Communicates information specific to a transcribed document as a result of a status change. This segment does not include the document contents and is required. |
| {OBX} | Observation Segment. Contains the document contents. This segment is required and is often repeating segments in an MDM. |
| [] = optional, { } = repeating | |

LAB, RAD, TRN, Supported Message Format

VHI prefers ORU messages over MDM messages but can accept either.



LAB, RAD, TRN Required Message Segments

LAB

VHI acknowledges ORU-R01 messages are used to transmit result data, register clinical trials, and for other medical reporting purposes. Observations reported can include clinical lab results, EKG pulmonary study results, patient condition, and other health data.

Minimum Segments Required: PV1, ORC, OBR, OBX, SPM, NTE

The OBR-Observation Request and OBX-Observation segments are the most important segments to include to report important order and observation data.

RAD

Radiology reports can be sent as ORU-R01 or MDM messages. ORU-R01 is preferred. Alternatively, the result report can be contained in either OBX and/or NTE segments. All radiology and results will be treated as free text. Please send finals only. Radiology messages may include radiology procedure results.

Minimum Segments Required: PV1, ORC, OBR, OBX or NTE

TRN

Transcriptions can be sent as ORU-R01 or MDM messages. All transcription results will be treated as free text. Please send finals only. Transcription messages may include care notes, care alerts, discharge summaries, or lab, radiology or procedure results.

Minimum Segments Required: PV1, OBR or TXA, ORC (if there's an OBR), OBX or NTE)

LAB, RAD, TRN Data Element Sender Usage

| | | |
|-----------|------------------------|------------------------------------------------------------------------------------|
| R | Required | Element must be sent with sub-elements populated according to the definition |
| RA | Required, if available | If the sender captures the data, the data must be sent in the specified segment. |
| C | Conditional | When conditionality predicate evaluates to "True", the segment usage is in effect. |
| O | Optional | The following elements are optional. |
| P | Preferred | The following element is optional, but the HIE prefers to collect it. |

A full listing of all required, preferred, and optional fields for the required segments can be found in the VHI_LAB_RAD_TRN_Specification.



LAB, RAD, TRN Data Type Definitions

| | |
|------------|-----------------------------------------------------------------------------------------------------------------|
| MSH | Message Segment Header |
| PID | Patient Identification Segment |
| ORC | Order Common Segment Note: Required with OBR segment. Transcriptions need the OBR or TXA segment |
| OBR | Observation Request Segment Note: OBR or TXA segment required for Transcriptions |
| OBX | Observation Result Segment Note: OBX or NTE segment required for Radiology Reports and Transcriptions |
| SPM | Specimen Segment |
| NTE | Notes and Comments Segment Note: OBX or NTE segment required for Radiology Reports and Transcriptions |
| TXA | Transcription Segment Note: OBR or TXA segment required for Transcriptions |

LAB, RAD, TRN Data Element Specifications

Specifications for LAB, RAD, TRN included within the comprehensive specification documents: VHI_LAB_RAD_TRN_Specification.

STANDARD CCD-A DATA SUBMISSION

C-CDA Introduction

C-CDA includes Clinical information exchange documents used to share information that supports care delivery, continuity of care planning, and transitions of care. CCD-A offer robust and comprehensive data. This Encounter Summary provides a snapshot of the patient's condition at the time of the encounter as authored by the clinician. A Patient Summary on the other hand provides a historical view of the information available in the sending system for a span of time which may cross multiple encounters.

C-CDA Data

| Encounter Summary Documents | Patient Summary Documents | Other Categories Generated Documents |
|--------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Consultation Note Discharge Summary History and Physical Note Progress Note | Continuity of Care Document (CCD) Transfer Summary | Care Plan Diagnostic Imaging Report Operative Note Procedure Note Referral Note Patient Generated Document |

Commented [MD1]: Need to discuss as a group but need to be able to answer which of these document types are required. And if all, what is the process for when a health system can't send a specific document type/section.

Submission Parameters

VHI requires facilities to share data that meets the latest USCDI standards. The USCDI is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.

Please refer to <https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi> for complete details regarding USCDI standards and latest requirements.

Supported C-CDA Message Types

The most common CDA message types supported and displayed in Program Applications are below:

| Record Type | CDA Type | Class Code | Scheme | Format Code | Scheme |
|-------------|-------------------------------------|----------------|--------|-------------------------|--------|
| 40-CDA | 9-Continuity of Care Document (CCD) | 34133-9 | LOINC | urn:ihe:pcc:xphr:2007 | XDS |
| 40-CDA | 10-Referral Summary | 57133-1 | LOINC | urn:ihe:pcc:xds-ms:2007 | XDS |
| | Discharge Summary | 18842-5 | LOINC | | |
| 40-CDA | 38-Progress Note | 11506-3 | LOINC | urn:ihe:pcc:xphr:2007 | XDS |



Supported CDA messages that are not currently displayed in Program Applications. If you are interested in providing these CDA types and viewing them in context, please contact your Account Manager for consideration.

| Record Type | CDA Type | Class Code | Scheme | Format Code | Scheme |
|-------------|---------------------------------------|------------|--------|-------------------------|--------|
| 40-CDA | 11-Discharge Summary | 34105-7 | LOINC | urn:ihe:pcc:xds-ms:2007 | XDS |
| 40-CDA | 14-Emergency Department Summary | 11303-5 | LOINC | urn:ihe:pcc:edr:2007 | XDS |
| 40-CDA | 23-Overall Plan of Care | 18776-5 | LOINC | urn:ihe:pcc:xds-ms:2007 | XDS |
| 40-CDA | 33-Consultation Note | 11488-4 | LOINC | | |
| 40-CDA | 34-Diagnostic Imaging Report | 18748-4 | LOINC | | |
| 40-CDA | 35-History and Physical Note | 34117-2 | LOINC | | |
| 40-CDA | 36-Operative Note | 11504-8 | LOINC | | |
| 40-CDA | 37-Procedure Note | 28570-0 | LOINC | | |
| 40-CDA | 39-Physician Consulting Progress Note | 28569-2 | LOINC | urn:ihe:pcc:xphr:2007 | XDS |
| | 70-Cancer Registry | | | urn:ihe:pcc:crc:2008 | XDS |

Supported C-CDA Message Format

Submitters must transmit electronic data using one of the following methods:

- **HTTPS**

Provide the following information to your Implementation or Account Manager:

- [Certificate signing request \(CSR\)](#) . The following articles provide insights in to how generate a CSR: [CSR Creation](#) | [Create Certificate Signing Request](#) | [DigiCert](#). VHI requests 2048-bit signing and a separate certificate will be issued from both TEST and PROD domains. The same CSR can be used for both TEST and PROD from the same server, or one CSR each from separate servers depending on the requirements.
- Organization's OID
- Organization's physical address
- Contact information – Name, email and phone number, for the appropriate technical resource(s)
- Public/Peer IP address(es) from which the data is sent
- Note: SSLv3, TLSv1 & TLSv1.1 are not supported protocols

- **Secure File Transfer Protocol (SFTP)** – Requires a submitter to obtain credentials and folder set up with the technology vendor.

C-CDA Required Message Segments

The technology vendor does not provide a validation tool, however, a free collection of testing tools and resources can be found at, <https://site.healthit.gov/sandbox-ccda/ccda-validator>.

Organizations testing C-CDA xml files using the validation testing tool receive an immediate response regarding the validity of the file structure. If the test result is invalid, errors in the construction of the file will be displayed. All errors must be cleared to obtain a "valid" test result.

Note: The testing tool also provides warning messages that may improve the file content but are

not critical structure errors.

All CDA documents include a structured header regardless of if the document is a CDA document with a structured Body element (a “structured document”) or a CDA document with a nonXMLBody element (an “unstructured document”). The structured header permits computer processing (parsing) to occur on its content. The header section contains patient information, author, creation date, and document type.

There are many situations where a document may be updated. For example, a pending laboratory result or a missing note may trigger an update. Since senders will not know what a receiver stored, send a complete document that replaces the prior document.

C-CDA Data Element Sender Usage

All CDA documents include a structured header regardless of if the document is a CDA document with a structured Body element (a “structured document”) or a CDA document with a nonXMLBody element (an “unstructured document”). The structured header permits computer processing (parsing) to occur on its content. The header section contains patient information, author, creation date, and document type.

C-CDA Data Type Definitions

C-CDA is a set of HL7 standards that specify both the structure and semantics of xml-based “clinical documents” for the purpose of exchanging clinical data, represented in the HL7 CDA Release 2 standards. As its name conveys, C-CDA is an effort by HL7 to constrain the numerous and overlapping standards of the legacy CDA standard. C-CDA reuses a set of section and entry templates that form the interoperable parts of nine document templates. C-CDA documents derive their machine-processable meaning from the HL7 Reference Information Model (RIM) and use the HL7 Release 2 data types.

C-CDA may be used to express nine types of clinical documents based on different use cases:

- Continuity of Care Document (CCD)
- Consultation Note
- Diagnostic Imaging Report
- Discharge Summary
- History and Physical Note
- Operative Note
- Procedure Note
- Progress Note
- Unstructured Document

A C-CDA document may contain many data sections. Each section may contain both narrative (i.e. human-readable) text and, possibly, machine-processable data.

C-CDA Data Element Specifications

Best practice for encoding some data elements is to use code systems that represent a specific type of information, particularly when the code system is in widespread use. When considering inclusion of data in a measure not already identified above, determine whether a specific authoritative code system is in widespread use and consider including that code system into the measure.

Examples

- CDT – Code on Dental Procedures and Nomenclature
- CVX (for vaccines)
- Health Level Seven International® (HL7) (e.g., Administrative Gender, Discharge Disposition)
- ICF—International Classification of Functioning, Disability, and Health
- NHCN Healthcare Facility Patient Care Location (HSLC in the Value Set Authority Center [VSAC])
- NUCC – National Uniform Claim Committee
- Source of Payment Typology (National Association of Health Data Organizations [NAHDO])
- UCUM – The Unified Code for Units of Measure



APPENDIX

VHI_ADT_Specification

VHI_Outbound_ADT_Specification

VHI_LAB_RAD_TRN_Specification

VHI_C-CDA_Specification