**Integrating the Healthcare Enterprise**



**IHE PCC**

**Technical Framework Supplement**

**Ambulance Transport to Facility**

**(ATF)**

<For FHIR based profiles, indicate the FHIR release & the FMM levels of the contents. Delete otherwise.>

HL7® FHIR® STU x

Using Resources at FMM Level n-n

**Revision x.x – Draft in Preparation for Public Comment (*or* Trial Implementation)**

<The IHE Documentation Specialist will change the title to just “Draft for Public Comment” or “Trial Implementation” upon publication. Leave “as is” until then.>

Date: <Month xx, 20xx>

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**Please verify you have the most recent version of this document.** See [here](http://ihe.net/Technical_Frameworks/) for Trial Implementation and Final Text versions and [here](http://ihe.net/Public_Comment/) for Public Comment versions.

**Foreword**

This is a supplement to the IHE <Domain Name> Technical Framework <VX.X>. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

*<For Public Comment:>* This supplement is published on <Month XX, 201x> for Public Comment. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>. In order to be considered in development of the Trial Implementation version of the supplement, comments must be received by <Month XX, 201X>.

*<For Trial Implementation:>* This supplement is published on <Month XX, 201X> for Trial Implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the <Domain Name> Technical Framework. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>.

This supplement describes changes to the existing technical framework documents.

“Boxed” instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

Amend section X.X by the following:

Where the amendment adds text, make the added text bold underline. Where the amendment removes text, make the removed text bold strikethrough. When entire new sections are added, introduce with editor’s instructions to “add new text” or similar, which for readability are not bolded or underlined.

General information about IHE can be found at [www.ihe.net](http://www.ihe.net/).

Information about the IHE <Domain Name> domain can be found at [ihe.net/IHE\_Domains](file:///D:\Google%20Drive\01_IHE\AppData\Roaming\Microsoft\Word\ihe.net\IHE_Domains\).

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at [http://ihe.net/IHE\_Process](http://ihe.net/IHE_Process/) and [http://ihe.net/Profiles](http://ihe.net/Profiles/).

The current version of the IHE <Domain name>Technical Framework can be found at [http://ihe.net/Technical\_Frameworks](http://ihe.net/Technical_Frameworks/).

*<Comments may be submitted on IHE Technical Framework templates any time at* [*http://ihe.net/Templates\_Public\_Comments*](http://ihe.net/Templates_Public_Comments/)*. Please enter comments/issues as soon as they are found. Do not wait until a future review cycle is announced.>*

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# Introduction to this Supplement

Whenever possible, IHE profiles are based on established and stable underlying standards. However, if an IHE committee determines that an emerging standard offers significant benefits for the use cases it is attempting to address and has a high likelihood of industry adoption, it may develop IHE profiles and related specifications based on such a standard.

The IHE committee will take care to update and republish the IHE profile in question as the underlying standard evolves. Updates to the profile or its underlying standards may necessitate changes to product implementations and site deployments in order for them to remain interoperable and conformant with the profile in question.

This <profile acronym> Profile (or This Technical Framework Supplement) uses the emerging HL7® FHIR® specification. The FHIR release profiled in this supplement is STU <x>. HL7 describes the STU (Standard for Trial Use) standardization state at <https://www.hl7.org/fhir/versions.html>.

In addition, HL7 provides a rating of the maturity of FHIR content based on the FHIR Maturity Model (FMM): level 0 (draft) through 5 (normative ballot ready). The FHIR Maturity Model is described at <http://hl7.org/fhir/versions.html#maturity>.

Key FHIR STU <x> content, such as Resources or ValueSets, used in this profile, and their FMM levels are:

|  |  |
| --- | --- |
| FHIR Content  (Resources, ValueSets, etc. | FMM Level |
|  |  |
|  |  |
| *<e.g. Communication* | *2>* |

When a patient is transported from a scene to a hospital, scene information, transfer information, patient assessments, and interventions are only verbally available to hospitals when the patient arrives. This produces a lag in the patient care, resulting in inefficiencies in the care process. This profile will map the flow of the patient information from an ambulance electronic Patient Care Record (ePCR) to the hospital Electronic Medical Record using query standards.

## Open Issues and Questions

Identify the pros and cons of making a CDA document as well as defining FHIR resources vs just using a FHIR document resource for both.

Investigate the FHIR process for defining the resources required to fulfill NEMSIS.

## Closed Issues

# General Introduction and Shared Appendices

The [IHE Technical Framework General Introduction and Shared Appendices](http://ihe.net/Technical_Frameworks/#GenIntro) are components shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to these documents where appropriate.

Update the following appendices to the General Introduction as indicated below. Note that these are **not** appendices to Volume 1.

# Appendix A – Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction Appendix A:

| Actor Name | Definition |
| --- | --- |
| Transport Data Creator | Generates the transport information and sends it to the Transport Data Consumer |
| Transport Data Consumer | Receives the transport data |

# Appendix B – Transaction Summary Definitions

Add the following transactions to the IHE Technical Frameworks General Introduction Appendix B:

| Transaction Name and Number | Definition |
| --- | --- |
| Send Transport Data [PCC-xx] | Send Transport Data and patient information elements using a FHIR PUT |

# Appendix D – Glossary

Add the following **new** glossary terms to the IHE Technical Frameworks General Introduction Appendix D.

| Glossary Term | Definition |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

Volume 1 – Profiles

## <*Copyright Licenses>*

## <*Domain-specific additions>*

Add new Section #

# X <Profile Name (Acronym)> Profile

Currently interventions and assessments are written into the ambulance electronic Patient Care Record (ePCR) either manually updated by the EMS crew or collected from electronic devices (e.g. vitals). The ePCR is updated with treatments and interventions during the transport. Currently the hospital will not typically have access to paper or electronic versions of this transport information until the report is closed in the ePCR and it is requested by the hospital. With this profile, the prehospital interventions and patient assessments would be available to the hospital/Emergency Room system electronically when the patient arrives, or in advance of patient arrival to the hospital. This informs medical decision making during the hospital treatment and potentially saves lives.

This profile will provide a way for the EMS systems to send important transport information (e.g. patient medical history, medications, allergies, updated vitals, and any interventions provided to the patient during transport) to the hospital EMR systems. This should allow for the hospital staff to understand the patient condition before their arrival and give the staff the opportunity make life saving decisions for the treatment of the patient, upon their arrival to the hospital.

## X.1 <Profile Acronym> Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General definitions of actors are given in the Technical Frameworks General Introduction Appendix A. IHE Transactions can be found in the Technical Frameworks General Introduction Appendix B. Both appendices are located at <http://ihe.net/Technical_Frameworks/#GenIntro>

Figure X.1-1 shows the actors directly involved in the <Profile Acronym> Profile and the relevant transactions between them. If needed for context, other actors that may be indirectly involved due to their participation in other related profiles are shown in dotted lines. Actors which have a required grouping are shown in conjoined boxes (see Section X.3).

Transport Data Creator

Transport Data Consumer

Send Transport Data [PCC-XX]

y for Transport Data

Figure X.1-1: <Profile Acronym> Actor Diagram

Content Creator

Content Consumer

Document Sharing

Figure X.1-2: <Profile Acronym> Actor Diagram

Table X.1-1 lists the transactions for each actor directly involved in the <Profile Acronym> Profile. To claim compliance with this profile, an actor shall support all required transactions (labeled “R”) and may support the optional transactions (labeled “O”).

Table X.1-1: <Profile Acronym> Profile - Actors and Transactions

| Actors | Transactions | Initiator or Responder | Optionality | Reference |
| --- | --- | --- | --- | --- |
| Content Creator | Document Sharing [PCC-1] | Initiator | R | PCC TF-2:3.1 |
| Content Consumer | Document Sharing [PCC-1] | Initiator | R | PCC TF-2:3.1 |
| Transport Data Creator | Send Transport Data [PCC-y1] | Initiator | R | PCC TF-2: 3..Y1 |
| Transport Data Consumer | Send Transport Data [PCC-y1] | Initiator | R | PCC TF-2: 3..Y1 |

Figure X.1-1 shows the actors directly involved in the <Profile Acronym> Profile and the direction that the content is exchanged.

A product implementation using this profile may group actors from this profile with actors from a workflow or transport profile to be functional. The grouping of the content module described in this profile to specific actors is described in more detail in Required Actor Groupings <DOM> TF-1: X.6 or in Cross Profile Considerations <DOM> TF-1: X.6.



Figure X.1-1: <Profile Acronym> Actor Diagram

Table X.1-1 lists the content module(s) defined in the <Profile Acronym> Profile. To claim support with this profile, an actor shall support all required content modules (labeled “R”) and may support optional content modules (labeled “O”).

Table X.1-1 <Profile Acronym> – Actors and Content Modules

| Actors | Content Modules | Optionality | Reference |
| --- | --- | --- | --- |
| Content Creator | Content Module 1 Name and Template ID | R | PCC TF-3: 6.3.1.D |
| Content Consumer | Content Module 1 Name and Template ID | O See Note 1 | PCC TF-3: 6.3.1.D |

Note 1:

### X.1.1 Actor Descriptions and Actor Profile Requirements

Most requirements are documented in <DOM> TF-2 Transactions. This section documents any additional requirements on profile’s actors.

Most requirements are documented in <DOM> TF-3 T Content Modules. This section documents any additional requirements on profile’s actors.

#### X.1.1.1 Content Creator

The Content Creator shall be responsible for the creation of content and transmission of a <Profile Acronym> document to a Content Consumer.

The <Profile Acronym> Content Creator creates the document that summarizes the emergency transport encounter that contains the following data elements:

| Ambulance Transport Data Elements | | Definition |
| --- | --- | --- |
| Patient | Last Name | The patient's last (family) name |
| First Name | The patient's first (given) name |
| Middle Initial/Name | The patient's middle name, if any |
| Home Address | Patient's address of residence |
| Home City | The patient's primary city or township of residence. |
| Home Country | The patient's home county or parish of residence. |
| Home State | The state, territory, or province where the patient resides. |
| Home Zip code | The patient's ZIP code of residence. |
| Country of Residence | The country of residence of the patient. |
| Social Security Number | The patient's social security number |
| Gender | The Patient's Gender |
| Race | The patient's race as defined by the OMB (US Office of Management and Budget) |
| History | Last Name of Patient's Practitioner | Indication of whether or not there were any patient specific barriers to serving the patient at the scene |
| First Name of Patient's Practitioner | The last name of the patient's practitioner |
| Middle Initial/Name of Patient's Practitioner | The first name of the patient's practitioner |
| Advanced Directives | The presence of a valid DNR form, living will, or document directing end of life or healthcare treatment decisions. |
| Medication Allergies | The patient's medication allergies |
| Environmental/Food Allergies | The patient's known allergies to food or environmental agents/ |
| Medical/Surgical History | The patient's pre-existing medical and surgery history of the patient |
| The Patient's Type of Immunization | The immunization type of the patient. |
| Immunization Year | The year associated with each immunization type |
| Current Medications | The medications the patient currently takes |
| Current Medication Dose | The numeric dose or amount of the patient's current medication |
| Current Medication Dosage Unit | The dosage unit of the patient's current medication |
| Current Medication Administration Route | The administration route (po, SQ, etc.) of the patient's current medication |
| Pregnancy | Indication of the possibility by the patient's history of current pregnancy. |
| Vitals | Date/Time Vital Signs Taken | The date/time vital signs were taken on the patient. |
| Cardiac Rhythm / Electrocardiography (ECG) | Indicates that the information which is documented was obtained prior to the documenting EMS units care. |
| ECG Type | The cardiac rhythm / ECG and other electrocardiography findings of the patient as interpreted by EMS personnel. |
| Method of ECG Interpretation | The method of ECG interpretation. |
| SBP (Systolic Blood Pressure) | The patient's systolic blood pressure. |
| DBP (Diastolic Blood Pressure) | The patient's diastolic blood pressure. |
| Method of Blood Pressure Measurement | Indication of method of blood pressure measurement. |
| Heart Rate | The patient's heart rate expressed as a number per minute. |
| Pulse Oximetry | The patient's oxygen saturation. |
| Pulse Rhythm | The clinical rhythm of the patient's pulse. |
| Respiratory Rate | The patient's respiratory rate expressed as a number per minute. |
| Respiratory Effort | The patient's respiratory effort. |
| Blood Glucose Level | The patient's blood glucose level. |
| Glasgow Coma Score-Eye | The patient's Glasgow Coma Score Eye opening. |
| Glasgow Coma Score-Verbal | The patient's Glasgow Coma Score Verbal. |
| Glasgow Coma Score-Motor | The patient's Glasgow Coma Score Motor |
| Glasgow Coma Score-Qualifier | Documentation of factors which make the GCS score more meaningful. |
| Total Glasgow Coma Score | The patient's total Glasgow Coma Score |
| Temperature | The patient's body temperature in degrees Celsius/centigrade. |
| Temperature Method | The method used to obtain the patient's body temperature. |
| Level of Responsiveness (AVPU) | The patient's highest level of responsiveness. |
| Pain Scale Score | The patient's indication of pain from a scale of 0-10. |
| Pain Scale Type | The type of pain scale used. |
| Stroke Scale Score | The findings or results of the Stroke Scale Type (eVitals.30) used to assess the patient exhibiting stroke-like symptoms. |
| Reperfusion Checklist | The results of the patient's Reperfusion Checklist for potential Thrombolysis use. |
| APGAR | The patient's total APGAR score (0-10). |
| Revised Trauma Score | The patient's Revised Trauma Score. |
| Response | EMS Agency Number | The state-assigned provider number of the responding agency |
| EMS Agency Name |  |
| Incident number | The incident number assigned by the 911 Dispatch System |
| EMS response number | The internal EMS response number which is unique for each EMS Vehicle's (Unit) response to an incident within an EMS Agency. |
| Type of service requested | The type of service or category of service requested of the EMS Agency responding for this specific EMS event |
| Primary Role of the Unit | The primary role of the EMS Unit which responded to this specific EMS event |
| Type of dispatch delay | The dispatch delays, if any, associated with the dispatch of the EMS unit to the EMS event. |
| Type of response delay | The response delays, if any, of the EMS unit associated with the EMS event. |
| Type of scene delay | The scene delays, if any, of the EMS unit associated with the EMS event. |
| Type of transport delay | The transport delays, if any, of the EMS unit associated with the EMS event. |
| Type of turn-around delay | The turn-around delays, if any, of EMS unit associated with the EMS event. |
| Level of care for this unit | The level of care (BLS or ALS) the unit is able to provide based on the units' treatment capabilities for this EMS response. |
| Vehicle Dispatch Location | The EMS location or healthcare facility representing the geographic location of the unit or crew at the time of dispatch. |
| Vehicle Dispatch GPS Location | The GPS coordinates associated with the EMS unit at the time of dispatch documented in decimal degrees. |
| Vehicle Dispatch Location US National Grid Coordinates | The US National Grid Coordinates for the EMS Vehicle's Dispatch Location. |
| Response Mode to Scene | The indication whether the response was emergent or non-emergent. An emergent response is an immediate response (typically using lights and sirens). |
| Times | Dispatched Notified Date/Time | The date/time dispatch was notified by the 911 call taker (if a separate entity). |
| Unit Arrived on Scene Date/Time | The date/time the responding unit arrived on the scene; that is, the time the vehicle stopped moving at the scene. |
| Arrived at Patient Date/Time | The date/time the responding unit arrived at the patient's side. |
| Transfer of EMS Patient Care Date/Time | The date/time the patient was transferred from this EMS agency to another EMS agency for care. |
| Unit Left Scene Date/Time | The date/time the responding unit left the scene with a patient (started moving). |
| Arrival at Destination Landing Area Date/Time | The date/time the Air Medical vehicle arrived at the destination landing area. |
| Patient Arrived at Destination Date/Time | The date/time the responding unit arrived with the patient at the destination or transfer point. |
| Destination Patient Transfer of Care Date/Time | The date/time that patient care was transferred to the destination healthcare facilities staff. |
| Scene | First EMS Unit on Scene | Documentation that this EMS Unit was the first EMS Unit for the EMS Agency on the Scene |
| Type of Other Service at Scene | The type of public safety or EMS service associated with Other Agencies on Scene |
| Date/Time Initial Responder Arrived on Scene | The time that the initial responder arrived on the scene, if applicable. |
| Numbers of Patients on Scene | Indicator of how many total patients were at the scene |
| Mass Casualty Incident | Indicator if this event would be considered a mass casualty incident (overwhelmed existing EMS resources) |
| Triage Classification for MCI Patient | The color associated with the initial triage assessment/classification of the MCI patient. |
| Incident Location Type | The kind of location where the incident happened |
| Situation | Date/Time of Symptom Onset | The date and time the symptom began (or was discovered) as it relates to this EMS event. This is described or estimated by the patient, family, and/or healthcare professionals. |
| Possible Injury | Indication whether or not there was an injury |
| Complaint Type | The type of patient healthcare complaint being documented. |
| Complaint | The statement of the problem by the patient or the history provider. |
| Duration of Complaint | The duration of the complaint |
| Time Units of Duration of Complaint | The time units of the duration of the patient's complaint |
| Chief complaint Anatomic Location | The primary anatomic location of the chief complaint as identified by EMS personnel |
| Chief Complain organ system | The primary organ system of the patient injured or medically affected. |
| Primary Symptom | The primary sign and symptom present in the patient or observed by EMS personnel |
| Other Associated symptoms | Other symptoms identified by the patient or observed by EMS personnel |
| Provider's Primary Impressions | The EMS personnel's impression of the patient's primary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Provider’s Secondary Impressions | The EMS personnel's impression of the patient's secondary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Initial Patient Acuity | The acuity of the patient's condition upon EMS arrival at the scene. |
| Injury | Cause of Injury | The category of the reported/suspected external cause of the injury. |
| Mechanism of Injury | The mechanism of the event which caused the injury |
| Vehicular, Pedestrian, or Other Injury Risk Factor | Mechanism and Special Considerations Field Trauma Triage Criteria (steps 3 and 4) as defined by the Centers for Disease Control. |
| Main Area of the Vehicle Impacted by the Collision | The area or location of initial impact on the vehicle based on 12-point clock diagram. |
| Location of Patient in Vehicle | The seat row location of the vehicle at the time of the crash with the front seat numbered as 1 |
| Use of Occupant Safety Equipment | Safety equipment in use by the patient at the time of the injury |
| Airbag Deployment | Indication of Airbag Deployment |
| Height of Fall (feet) | The distance in feet the patient fell, measured from the lowest point of the patient to the ground |
| OSHA Personal Protective Equipment Used | Documentation of the use of OSHA required protective equipment used by the patient at the time of injury. |
| Arrest | Cardiac Arrest | Indication of the presence of a cardiac arrest at any time during this EMS event. |
| Cardiac Arrest Etiology | Indication of the etiology or cause of the cardiac arrest (classified as cardiac, non-cardiac, etc.) |
| Resuscitation Attempted By EMS | Indication of an attempt to resuscitate the patient who is in cardiac arrest (attempted, not attempted due to DNR, etc.) |
| Arrest Witnessed By | Indication of who the cardiac arrest was witnessed by |
| CPR Care Provided Prior to EMS Arrival | Documentation of the CPR provided prior to EMS arrival |
| Who Provided CPR Prior to EMS Arrival | Documentation of who performed CPR prior to this EMS unit's arrival. |
| AED Use Prior to EMS Arrival | Documentation of AED use Prior to EMS Arrival |
| Who Used AED Prior to EMS Arrival | Documentation of who used the AED prior to this EMS unit's arrival. |
| Type of CPR Provided | Documentation of the type/technique of CPR used by EMS. |
| First Monitored Arrest Rhythm of the Patient | Documentation of what the first monitored arrest rhythm which was noted |
| Any Return of Spontaneous Circulation | Indication whether or not there was any return of spontaneous circulation. |
| Date/Time of Cardiac Arrest | The date/time of the cardiac arrest (if not known, please estimate). |
| Date/Time Resuscitation Discontinued | The date/time resuscitation was discontinued. |
| Reason CPR/Resuscitation Discontinued | The reason that CPR or the resuscitation efforts were discontinued. |
| Cardiac Rhythm on Arrival at Destination | The patient's cardiac rhythm upon delivery or transfer to the destination |
| End of EMS Cardiac Arrest Event | The patient's outcome at the end of the EMS event. |
| Date/Time of Initial CPR | The initial date and time that CPR was started by anyone. |
| Exam | Date/Time of Assessment | The date/time of the assessment |
| Skin Assessment | The assessment findings associated with the patient's skin. |
| Head Assessment | The assessment findings associated with the patient's head. |
| Face Assessment | The assessment findings associated with the patient's face. |
| Neck Assessment | The assessment findings associated with the patient's neck. |
| Chest/Lungs Assessment | The assessment findings associated with the patient's chest/lungs. |
| Heart Assessment | The assessment findings associated with the patient's heart. |
| Abdominal Assessment Finding Location | The location of the patient's abdomen assessment findings. |
| Abdominal Assessment Finding Location | The location of the patient's abdomen assessment findings. |
| Abdomen Assessment | The assessment findings associated with the patient's abdomen. |
| Pelvis/Genitourinary Assessment | The assessment findings associated with the patient's pelvis/genitourinary. |
| Back and Spine Assessment Finding Location | The location of the patient's back and spine assessment findings. |
| Back and Spine Assessment | The assessment findings associated with the patient's spine (Cervical, Thoracic, Lumbar, and Sacral) and back exam. |
| Extremity Assessment Finding Location | The location of the patient's extremity assessment findings. |
| Extremities Assessment | The assessment findings associated with the patient's extremities. |
| Eye Assessment Finding Location | The location of the patient's eye assessment findings. |
| Eye Assessment | The assessment findings of the patient's eye examination. |
| Mental Status Assessment | The assessment findings of the patient's mental status examination. |
| Neurological Assessment | The assessment findings of the patient's neurological examination. |
| Stroke/CVA Symptoms Resolved | Indication if the Stroke/CVA Symptoms resolved and when. |
| Medications | Date/Time Medication Administered | The date/time medication administered to the patient |
| Medication Administered Prior to this Unit's EMS Care | Indicates that the medication administration which is documented was administered prior to this EMS units care |
| Medication Given | The medication given to the patient |
| Medication Administered Route | The route medication was administered to the patient |
| Medication Dosage | The dose or amount of the medication given to the patient |
| Medication Dosage Units | The unit of medication dosage given to patient |
| Response to Medication | The patient's response to the medication |
| Medication Complication | Any complication (abnormal effect on the patient) associated with the administration of the medication to the patient by EMS |
| Medication Crew (Healthcare Professionals) ID | The statewide assigned ID number of the EMS crew member giving the treatment to the patient |
| Role/Type of Person Administering Medication | The type (level) of EMS or Healthcare Professional Administering the Medication. For medications administered prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Medication Authorization | The type of treatment authorization obtained |
| Medication Authorizing Physician | The name of the authorizing physician ordering the medication administration if the order was provided by any manner other than protocol (standing order) in EMedications.11 |
| Procedures | Date/Time Procedure Performed | The date/time the procedure was performed on the patient |
| Procedure Performed Prior to this Unit's EMS Care | Indicates that the procedure which was performed and documented was performed prior to this EMS units care. |
| Procedure | The procedure performed on the patient. |
| Size of Procedure Equipment | The size of the equipment used in the procedure on the patient |
| Number of Procedure Attempts | The number of attempts taken to complete a procedure or intervention regardless of success. |
| Procedure Successful | Indicates that this individual procedure attempt which was performed on the patient was successful. |
| Procedure Complication | Any complication (abnormal effect on the patient) associated with the performance of the procedure on the patient |
| Response to Procedure | The patient's response to the procedure |
| Procedure Crew Members ID | The statewide assigned ID number of the EMS crew member performing the procedure on the patient |
| Role/Type of Person Performing the Procedure | The type (level) of EMS or Healthcare Professional performing the procedure. For procedures performed prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Procedure Authorization | The type of treatment authorization obtained |
| Procedure Authorizing Physician | The name of the authorizing physician ordering the procedure, if the order was provided by any manner other than protocol (standing order) in eProcedures.11 |
| Vascular Access Location | The location of the vascular access site attempt on the patient, if applicable. |
| Airway | Indications for Invasive Airway | The clinical indication for performing invasive airway management. |
| Date/Time Airway Device Placement Confirmation | The date and time the airway device placement was confirmed. |
| Airway Device Being Confirmed | The airway device in which placement is being confirmed. |
| Airway Device Placement Confirmed Method | The method used to confirm the airway device placement. |
| Tube Depth | The measurement at the patient's teeth/lip of the tube depth in centimeters (cm) of the invasive airway placed. |
| Type of Individual Confirming Airway Device Placement | The type of individual who confirmed the airway device placement. |
| Crew Member ID | The statewide assigned ID number of the EMS crew member confirming the airway placement. |
| Airway Complications Encountered | The airway management complications encountered during the patient care episode. |
| Suspected Reasons for Failed Airway Management | The reason(s) the airway was unable to be successfully managed. |
| Date/Time Decision to Manage the Patient with an Invasive Airway | The date and time the decision was made to manage the patient's airway with an invasive airway device. |
| Date/Time Invasive Airway Placement Attempts Abandoned | The date and time that the invasive airway attempts were abandoned for the patient. |
| Device | Medical Device Serial Number | The unique manufacturer's serial number associated with a medical device. |
| Date/Time of Event (per Medical Device) | The time of the event recorded by the device's internal clock |
| Medical Device Event Type | The type of event documented by the medical device. |
| Medical Device Waveform Graphic Type | The description of the waveform file stored in Waveform Graphic (eDevice.05). |
| Medical Device Waveform Graphic | The graphic waveform file. |
| Medical Device Mode (Manual, AED, Pacing, CO2, O2, etc) | The mode of operation the device is operating in during the defibrillation, pacing, or rhythm analysis by the device (if appropriate for the event) |
| Medical Device ECG Lead | The lead or source which the medical device used to obtain the rhythm (if appropriate for the event) |
| Medical Device ECG Interpretation | The interpretation of the rhythm by the device (if appropriate for the event) |
| Type of Shock | The type of shock used by the device for the defibrillation (if appropriate for the event) |
| Shock or Pacing Energy | The energy (in joules) used for the shock or pacing (if appropriate for the event) |
| Total Number of Shocks Delivered | The number of times the patient was defibrillated, if the patient was defibrillated during the patient encounter. |
| Pacing Rate | The rate the device was calibrated to pace during the event, if appropriate. |

#### X.1.1.2 Content Consumer

A Content Consumer is responsible for viewing, importing, or other processing options for <Profile Acronym> content created by a <Profile Acronym> Content Creator.

#### X.1.1.3 Transport Data Consumer

The Transport Data Consumer is responsible for initiating a query to the Hospital system for documents meeting certain criteria and can retrieve selected documents supplied by the Transport Data Creator.

#### X.1.1.4 Transport Data Creator

The Transport Data Creator shall be responsible for the creation of content and transmission of a <Profile Acronym> document to a Transport Data Consumer.

The <Profile Acronym> Transport Data Creator creates the document that summarizes the emergency transport encounter that contains the following data elements:

| Ambulance Transport Data Elements | | Definition |
| --- | --- | --- |
| Patient | Last Name | The patient's last (family) name |
| First Name | The patient's first (given) name |
| Middle Initial/Name | The patient's middle name, if any |
| Home Address | Patient's address of residence |
| Home City | The patient's primary city or township of residence. |
| Home Country | The patient's home county or parish of residence. |
| Home State | The state, territory, or province where the patient resides. |
| Home Zip code | The patient's ZIP code of residence. |
| Country of Residence | The country of residence of the patient. |
| Social Security Number | The patient's social security number |
| Gender | The Patient's Gender |
| Race | The patient's race as defined by the OMB (US Office of Management and Budget) |
| History | Last Name of Patient's Practitioner | Indication of whether or not there were any patient specific barriers to serving the patient at the scene |
| First Name of Patient's Practitioner | The last name of the patient's practitioner |
| Middle Initial/Name of Patient's Practitioner | The first name of the patient's practitioner |
| Advanced Directives | The presence of a valid DNR form, living will, or document directing end of life or healthcare treatment decisions. |
| Medication Allergies | The patient's medication allergies |
| Environmental/Food Allergies | The patient's known allergies to food or environmental agents/ |
| Medical/Surgical History | The patient's pre-existing medical and surgery history of the patient |
| The Patient's Type of Immunization | The immunization type of the patient. |
| Immunization Year | The year associated with each immunization type |
| Current Medications | The medications the patient currently takes |
| Current Medication Dose | The numeric dose or amount of the patient's current medication |
| Current Medication Dosage Unit | The dosage unit of the patient's current medication |
| Current Medication Administration Route | The administration route (po, SQ, etc.) of the patient's current medication |
| Pregnancy | Indication of the possibility by the patient's history of current pregnancy. |
| Vitals | Date/Time Vital Signs Taken | The date/time vital signs were taken on the patient. |
| Cardiac Rhythm / Electrocardiography (ECG) | Indicates that the information which is documented was obtained prior to the documenting EMS units care. |
| ECG Type | The cardiac rhythm / ECG and other electrocardiography findings of the patient as interpreted by EMS personnel. |
| Method of ECG Interpretation | The method of ECG interpretation. |
| SBP (Systolic Blood Pressure) | The patient's systolic blood pressure. |
| DBP (Diastolic Blood Pressure) | The patient's diastolic blood pressure. |
| Method of Blood Pressure Measurement | Indication of method of blood pressure measurement. |
| Heart Rate | The patient's heart rate expressed as a number per minute. |
| Pulse Oximetry | The patient's oxygen saturation. |
| Pulse Rhythm | The clinical rhythm of the patient's pulse. |
| Respiratory Rate | The patient's respiratory rate expressed as a number per minute. |
| Respiratory Effort | The patient's respiratory effort. |
| Blood Glucose Level | The patient's blood glucose level. |
| Glasgow Coma Score-Eye | The patient's Glasgow Coma Score Eye opening. |
| Glasgow Coma Score-Verbal | The patient's Glasgow Coma Score Verbal. |
| Glasgow Coma Score-Motor | The patient's Glasgow Coma Score Motor |
| Glasgow Coma Score-Qualifier | Documentation of factors which make the GCS score more meaningful. |
| Total Glasgow Coma Score | The patient's total Glasgow Coma Score |
| Temperature | The patient's body temperature in degrees Celsius/centigrade. |
| Temperature Method | The method used to obtain the patient's body temperature. |
| Level of Responsiveness (AVPU) | The patient's highest level of responsiveness. |
| Pain Scale Score | The patient's indication of pain from a scale of 0-10. |
| Pain Scale Type | The type of pain scale used. |
| Stroke Scale Score | The findings or results of the Stroke Scale Type (eVitals.30) used to assess the patient exhibiting stroke-like symptoms. |
| Reperfusion Checklist | The results of the patient's Reperfusion Checklist for potential Thrombolysis use. |
| APGAR | The patient's total APGAR score (0-10). |
| Revised Trauma Score | The patient's Revised Trauma Score. |
| Response | EMS Agency Number | The state-assigned provider number of the responding agency |
| EMS Agency Name |  |
| Incident number | The incident number assigned by the 911 Dispatch System |
| EMS response number | The internal EMS response number which is unique for each EMS Vehicle's (Unit) response to an incident within an EMS Agency. |
| Type of service requested | The type of service or category of service requested of the EMS Agency responding for this specific EMS event |
| Primary Role of the Unit | The primary role of the EMS Unit which responded to this specific EMS event |
| Type of dispatch delay | The dispatch delays, if any, associated with the dispatch of the EMS unit to the EMS event. |
| Type of response delay | The response delays, if any, of the EMS unit associated with the EMS event. |
| Type of scene delay | The scene delays, if any, of the EMS unit associated with the EMS event. |
| Type of transport delay | The transport delays, if any, of the EMS unit associated with the EMS event. |
| Type of turn-around delay | The turn-around delays, if any, of EMS unit associated with the EMS event. |
| Level of care for this unit | The level of care (BLS or ALS) the unit is able to provide based on the units' treatment capabilities for this EMS response. |
| Vehicle Dispatch Location | The EMS location or healthcare facility representing the geographic location of the unit or crew at the time of dispatch. |
| Vehicle Dispatch GPS Location | The GPS coordinates associated with the EMS unit at the time of dispatch documented in decimal degrees. |
| Vehicle Dispatch Location US National Grid Coordinates | The US National Grid Coordinates for the EMS Vehicle's Dispatch Location. |
| Response Mode to Scene | The indication whether the response was emergent or non-emergent. An emergent response is an immediate response (typically using lights and sirens). |
| Times | Dispatched Notified Date/Time | The date/time dispatch was notified by the 911 call taker (if a separate entity). |
| Unit Arrived on Scene Date/Time | The date/time the responding unit arrived on the scene; that is, the time the vehicle stopped moving at the scene. |
| Arrived at Patient Date/Time | The date/time the responding unit arrived at the patient's side. |
| Transfer of EMS Patient Care Date/Time | The date/time the patient was transferred from this EMS agency to another EMS agency for care. |
| Unit Left Scene Date/Time | The date/time the responding unit left the scene with a patient (started moving). |
| Arrival at Destination Landing Area Date/Time | The date/time the Air Medical vehicle arrived at the destination landing area. |
| Patient Arrived at Destination Date/Time | The date/time the responding unit arrived with the patient at the destination or transfer point. |
| Destination Patient Transfer of Care Date/Time | The date/time that patient care was transferred to the destination healthcare facilities staff. |
| Scene | First EMS Unit on Scene | Documentation that this EMS Unit was the first EMS Unit for the EMS Agency on the Scene |
| Type of Other Service at Scene | The type of public safety or EMS service associated with Other Agencies on Scene |
| Date/Time Initial Responder Arrived on Scene | The time that the initial responder arrived on the scene, if applicable. |
| Numbers of Patients on Scene | Indicator of how many total patients were at the scene |
| Mass Casualty Incident | Indicator if this event would be considered a mass casualty incident (overwhelmed existing EMS resources) |
| Triage Classification for MCI Patient | The color associated with the initial triage assessment/classification of the MCI patient. |
| Incident Location Type | The kind of location where the incident happened |
| Situation | Date/Time of Symptom Onset | The date and time the symptom began (or was discovered) as it relates to this EMS event. This is described or estimated by the patient, family, and/or healthcare professionals. |
| Possible Injury | Indication whether or not there was an injury |
| Complaint Type | The type of patient healthcare complaint being documented. |
| Complaint | The statement of the problem by the patient or the history provider. |
| Duration of Complaint | The duration of the complaint |
| Time Units of Duration of Complaint | The time units of the duration of the patient's complaint |
| Chief complaint Anatomic Location | The primary anatomic location of the chief complaint as identified by EMS personnel |
| Chief Complain organ system | The primary organ system of the patient injured or medically affected. |
| Primary Symptom | The primary sign and symptom present in the patient or observed by EMS personnel |
| Other Associated symptoms | Other symptoms identified by the patient or observed by EMS personnel |
| Provider's Primary Impressions | The EMS personnel's impression of the patient's primary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Provider’s Secondary Impressions | The EMS personnel's impression of the patient's secondary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Initial Patient Acuity | The acuity of the patient's condition upon EMS arrival at the scene. |
| Injury | Cause of Injury | The category of the reported/suspected external cause of the injury. |
| Mechanism of Injury | The mechanism of the event which caused the injury |
| Vehicular, Pedestrian, or Other Injury Risk Factor | Mechanism and Special Considerations Field Trauma Triage Criteria (steps 3 and 4) as defined by the Centers for Disease Control. |
| Main Area of the Vehicle Impacted by the Collision | The area or location of initial impact on the vehicle based on 12-point clock diagram. |
| Location of Patient in Vehicle | The seat row location of the vehicle at the time of the crash with the front seat numbered as 1 |
| Use of Occupant Safety Equipment | Safety equipment in use by the patient at the time of the injury |
| Airbag Deployment | Indication of Airbag Deployment |
| Height of Fall (feet) | The distance in feet the patient fell, measured from the lowest point of the patient to the ground |
| OSHA Personal Protective Equipment Used | Documentation of the use of OSHA required protective equipment used by the patient at the time of injury. |
| Arrest | Cardiac Arrest | Indication of the presence of a cardiac arrest at any time during this EMS event. |
| Cardiac Arrest Etiology | Indication of the etiology or cause of the cardiac arrest (classified as cardiac, non-cardiac, etc.) |
| Resuscitation Attempted By EMS | Indication of an attempt to resuscitate the patient who is in cardiac arrest (attempted, not attempted due to DNR, etc.) |
| Arrest Witnessed By | Indication of who the cardiac arrest was witnessed by |
| CPR Care Provided Prior to EMS Arrival | Documentation of the CPR provided prior to EMS arrival |
| Who Provided CPR Prior to EMS Arrival | Documentation of who performed CPR prior to this EMS unit's arrival. |
| AED Use Prior to EMS Arrival | Documentation of AED use Prior to EMS Arrival |
| Who Used AED Prior to EMS Arrival | Documentation of who used the AED prior to this EMS unit's arrival. |
| Type of CPR Provided | Documentation of the type/technique of CPR used by EMS. |
| First Monitored Arrest Rhythm of the Patient | Documentation of what the first monitored arrest rhythm which was noted |
| Any Return of Spontaneous Circulation | Indication whether or not there was any return of spontaneous circulation. |
| Date/Time of Cardiac Arrest | The date/time of the cardiac arrest (if not known, please estimate). |
| Date/Time Resuscitation Discontinued | The date/time resuscitation was discontinued. |
| Reason CPR/Resuscitation Discontinued | The reason that CPR or the resuscitation efforts were discontinued. |
| Cardiac Rhythm on Arrival at Destination | The patient's cardiac rhythm upon delivery or transfer to the destination |
| End of EMS Cardiac Arrest Event | The patient's outcome at the end of the EMS event. |
| Date/Time of Initial CPR | The initial date and time that CPR was started by anyone. |
| Exam | Date/Time of Assessment | The date/time of the assessment |
| Skin Assessment | The assessment findings associated with the patient's skin. |
| Head Assessment | The assessment findings associated with the patient's head. |
| Face Assessment | The assessment findings associated with the patient's face. |
| Neck Assessment | The assessment findings associated with the patient's neck. |
| Chest/Lungs Assessment | The assessment findings associated with the patient's chest/lungs. |
| Heart Assessment | The assessment findings associated with the patient's heart. |
| Abdominal Assessment Finding Location | The location of the patient's abdomen assessment findings. |
| Abdominal Assessment Finding Location | The location of the patient's abdomen assessment findings. |
| Abdomen Assessment | The assessment findings associated with the patient's abdomen. |
| Pelvis/Genitourinary Assessment | The assessment findings associated with the patient's pelvis/genitourinary. |
| Back and Spine Assessment Finding Location | The location of the patient's back and spine assessment findings. |
| Back and Spine Assessment | The assessment findings associated with the patient's spine (Cervical, Thoracic, Lumbar, and Sacral) and back exam. |
| Extremity Assessment Finding Location | The location of the patient's extremity assessment findings. |
| Extremities Assessment | The assessment findings associated with the patient's extremities. |
| Eye Assessment Finding Location | The location of the patient's eye assessment findings. |
| Eye Assessment | The assessment findings of the patient's eye examination. |
| Mental Status Assessment | The assessment findings of the patient's mental status examination. |
| Neurological Assessment | The assessment findings of the patient's neurological examination. |
| Stroke/CVA Symptoms Resolved | Indication if the Stroke/CVA Symptoms resolved and when. |
| Medications | Date/Time Medication Administered | The date/time medication administered to the patient |
| Medication Administered Prior to this Unit's EMS Care | Indicates that the medication administration which is documented was administered prior to this EMS units care |
| Medication Given | The medication given to the patient |
| Medication Administered Route | The route medication was administered to the patient |
| Medication Dosage | The dose or amount of the medication given to the patient |
| Medication Dosage Units | The unit of medication dosage given to patient |
| Response to Medication | The patient's response to the medication |
| Medication Complication | Any complication (abnormal effect on the patient) associated with the administration of the medication to the patient by EMS |
| Medication Crew (Healthcare Professionals) ID | The statewide assigned ID number of the EMS crew member giving the treatment to the patient |
| Role/Type of Person Administering Medication | The type (level) of EMS or Healthcare Professional Administering the Medication. For medications administered prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Medication Authorization | The type of treatment authorization obtained |
| Medication Authorizing Physician | The name of the authorizing physician ordering the medication administration if the order was provided by any manner other than protocol (standing order) in EMedications.11 |
| Procedures | Date/Time Procedure Performed | The date/time the procedure was performed on the patient |
| Procedure Performed Prior to this Unit's EMS Care | Indicates that the procedure which was performed and documented was performed prior to this EMS units care. |
| Procedure | The procedure performed on the patient. |
| Size of Procedure Equipment | The size of the equipment used in the procedure on the patient |
| Number of Procedure Attempts | The number of attempts taken to complete a procedure or intervention regardless of success. |
| Procedure Successful | Indicates that this individual procedure attempt which was performed on the patient was successful. |
| Procedure Complication | Any complication (abnormal effect on the patient) associated with the performance of the procedure on the patient |
| Response to Procedure | The patient's response to the procedure |
| Procedure Crew Members ID | The statewide assigned ID number of the EMS crew member performing the procedure on the patient |
| Role/Type of Person Performing the Procedure | The type (level) of EMS or Healthcare Professional performing the procedure. For procedures performed prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Procedure Authorization | The type of treatment authorization obtained |
| Procedure Authorizing Physician | The name of the authorizing physician ordering the procedure, if the order was provided by any manner other than protocol (standing order) in eProcedures.11 |
| Vascular Access Location | The location of the vascular access site attempt on the patient, if applicable. |
| Airway | Indications for Invasive Airway | The clinical indication for performing invasive airway management. |
| Date/Time Airway Device Placement Confirmation | The date and time the airway device placement was confirmed. |
| Airway Device Being Confirmed | The airway device in which placement is being confirmed. |
| Airway Device Placement Confirmed Method | The method used to confirm the airway device placement. |
| Tube Depth | The measurement at the patient's teeth/lip of the tube depth in centimeters (cm) of the invasive airway placed. |
| Type of Individual Confirming Airway Device Placement | The type of individual who confirmed the airway device placement. |
| Crew Member ID | The statewide assigned ID number of the EMS crew member confirming the airway placement. |
| Airway Complications Encountered | The airway management complications encountered during the patient care episode. |
| Suspected Reasons for Failed Airway Management | The reason(s) the airway was unable to be successfully managed. |
| Date/Time Decision to Manage the Patient with an Invasive Airway | The date and time the decision was made to manage the patient's airway with an invasive airway device. |
| Date/Time Invasive Airway Placement Attempts Abandoned | The date and time that the invasive airway attempts were abandoned for the patient. |
| Device | Medical Device Serial Number | The unique manufacturer's serial number associated with a medical device. |
| Date/Time of Event (per Medical Device) | The time of the event recorded by the device's internal clock |
| Medical Device Event Type | The type of event documented by the medical device. |
| Medical Device Waveform Graphic Type | The description of the waveform file stored in Waveform Graphic (eDevice.05). |
| Medical Device Waveform Graphic | The graphic waveform file. |
| Medical Device Mode (Manual, AED, Pacing, CO2, O2, etc) | The mode of operation the device is operating in during the defibrillation, pacing, or rhythm analysis by the device (if appropriate for the event) |
| Medical Device ECG Lead | The lead or source which the medical device used to obtain the rhythm (if appropriate for the event) |
| Medical Device ECG Interpretation | The interpretation of the rhythm by the device (if appropriate for the event) |
| Type of Shock | The type of shock used by the device for the defibrillation (if appropriate for the event) |
| Shock or Pacing Energy | The energy (in joules) used for the shock or pacing (if appropriate for the event) |
| Total Number of Shocks Delivered | The number of times the patient was defibrillated, if the patient was defibrillated during the patient encounter. |
| Pacing Rate | The rate the device was calibrated to pace during the event, if appropriate. |

## X.2 <Profile Acronym> Actor Options

**Options tha**t may be selected for each actor in this profile, if any, are listed in the Table X.2-1. Dependencies between options, when applicable, are specified in notes.

Table X.2-1: <Profile Name> – Actors and Options

| Actor | Option Name | Reference |
| --- | --- | --- |
| Transport Data Consumer | No options defined | -- |
| Transport Data Creator | No options defined | -- |
| Content Creator | No options defined | -- |
| Content Consumer | View Option | PCC TF-2: 3.1.1 |
|  | Document Import Option | PCC TF-2: 3.1.2 |
|  | Section Import Option | PCC TF-2: 3.1.3 |
|  | Discrete Data Import Option | PCC TF-2: 3.1.4 |

Note: *<Conditional or required options must be described in this short note, for longer notes use Section X.2.1.>*

### X.2.1 Emergency Data Import Option

Defines the processing requirements placed on emergency transport content consumers for providing access and importing discreet data from selected sections of the Emergency Transport document. The data that will be imported is specified in the Content Creator table XXX.

## X.3 <Profile Acronym> Required Actor Groupings

There are no required actor groupings for this profile

## X.4 <Profile Acronym> Overview

Patient transport is shown using a query transaction to make the flow of the patient information from the ambulance ePCR to the hospital with a paperless route. This reduces the time spent verbally passing on information to the hospital staff and errors developed through manual input of the information. Overall this will provide a faster and more efficient way for the hospital providers to know the patient condition and treat them when they arrive to the hospital.

### X.4.1 Concepts

When a hospital is receiving a patient that comes in an an emergency ambulance transport their main source of the patient information comes from the ambulance crew that carried out the emergency transport. This information is not typically electronically transferred and therefore this relay of information is usually verbal. This can draw away from the treatment of the patient. The use of an interoperable transfer of patient information can reduce the time spent relaying information and provide the hospital treatment team with patient information that can help provide useful information that can be used to make decisions on their treatment upon their arrival to the hospital.

### X.4.2 Use Cases

#### X.4.2.1 Use Case #1: Emergency Response for Heart Attack

This use case describes how an emergency response for a heart attack is carried out and then how the information on interventions are recorded and provided to a hospital, using this profile.

##### X.4.2.1.1 Emergency Response for Heart Attack Use Case Description

A fifty-year-old man started developing heart attack symptoms. He calls 911 for an emergency transport to a hospital. The emergency transport team is able to retrieve some of the patient’s medical history, current medications and allergies from the patient and inputs this information in their Electronic Patient Care Record (ePCR). The patient told EMTs that he had already taken his prescribed nitroglycerine thirty minutes before calling 911 when the chest pain first presented. A 12 lead EKG was established to monitor the patient’s heart rhythm and the rhythm shows abnormalities conducive to a myocardial infarction. The EMT starts 18 gage intravenous line in the patient’s left arm. During the transport the patient’s chest pain has worsened and breathing is elevated. After making sure that the patient was not on any blood thinners, the EMT administers aspirin to the patient. The patient felt a relief in chest pain after taking the aspirin, however, the patient soon falls into cardiac arrest. Compressions are started and maintained until arrival to the hospital. The patient information was pushed into the hospital system during the transport and the hospital has full access to the EKG, vitals, and interventions provided during the transport. The hospital staff assumes patient care and is able to make the appropriate decisions on drug administration and interventions for the patient. the EMS ePCR is completed with the updated times for the transport and is closed out. Once the report is complete, it is electronically provided to the hospital.

##### X.4.2.1.2 Emergency Response for Heart Attack Process Flow

Transport Data Creator

Transport Data Consumer

Send Transport Data [PCC-XX]

Figure X.4.2.2-1: Basic Process Flow in <Profile Acronym> Profile

**Pre-conditions**:

1. The person calling 911 is suffering from an emergent issue
2. An EMS response team is sent out for the call

**Main Flow**:

1. EMS provider arrives on scene and inputs the patient information into the ePCR.
2. Interventions are performed during transport, and documented
3. EMS pushes the information for the current patient condition and interventions that were performed to the hospital
4. The patient care is transferred to the hospital staff.

**Post-conditions:**

1. The ePCR is closed out and the full report is provided to the hospital
2. The patient care is continued in the hospital

## X.5 <Profile Acronym> Security Considerations

The security considerations for a content module are dependent upon the security provisions defined by the grouped actor(s). There should be a trusted connection between the hospital system and the ambulance system to ensure the safety of the patient information.

Actors in the <Profile Acronym> Profile create, modify, and consume patient demographics, clinical and administrative information which includes personally identifiable health information. This information must be protected against unauthorized access, modification or tampering. This profile recommends but does not require that connections between actors be grouped with the Secure Node or Secure Application Actors from the IHE ATNA Profile.

These actors ensure appropriate user authentication and authorization to access the application and protect personally identifiable health information against unauthorized access, modification or tampering while the information is in transit.

## X.6 <Profile Acronym> Cross Profile Considerations

The use of the IHE XD\* family of transactions is encouraged to support standards-based interoperability between systems acting as the <Profile Acronym> Content Creator and <Profile Acronym> Content Consumer. However, this profile does not require any groupings with ITI XD\* actors to facilitate transport of the content document it defines. Below is a summary of recommended

IHE transport transactions that MAY be utilized by systems playing the roles of RIPT Content Creator or RIPT Content Consumer to support the standard use case defined in this profile:

* A Document Source in XDS.b, a Portable Media Creator in XDM, or a Document Source in XDR might be grouped with the <Profile Acronym> Content Creator. A Document Consumer in XDS.b, a Portable Media Importer in XDM, or a Document Recipient in XDR might be grouped with the <Profile Acronym> Content Consumer. A registry/repository-based infrastructure is defined by the IHE Cross Enterprise Document Sharing (XDS.b) that includes profile support that can be leveraged to facilitate retrieval of public health related information from a document sharing infrastructure: Multi-Patient Query (MPQ), and Document Metadata Subscription (DSUB).
* A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) Profile. Document Source in XDR might be grouped with the <Profile Acronym> Content Creator. A Document Recipient in XDR might be grouped with the <Profile Acronym> Content Consumer.

Detailed descriptions of these transactions can be found in the IHE IT Infrastructure Technical Framework.

Appendices

# Appendix A – Required Data Elements for Emergency Ambulance Transport Summary

## A.1 Data Elements Table

| Ambulance Transport Data | | NEMSIS Reference | Definition |
| --- | --- | --- | --- |
| Patient | Last Name | Version2 Element - E06\_01 | The patient's last (family) name |
| First Name | Version2 Element - E06\_02 | The patient's first (given) name |
| Middle Initial/Name | Version2 Element - E06\_03 | The patient's middle name, if any |
| Home Address | Version2 Element - E06\_04 | Patient's address of residence |
| Home City | Version2 Element - E06\_05 | The patient's primary city or township of residence. |
| Home Country | Version2 Element - E06\_06 | The patient's home county or parish of residence. |
| Home State | Version2 Element - E06\_07 | The state, territory, or province where the patient resides. |
| Home Zip code | Version2 Element - E06\_08 | The patient's ZIP code of residence. |
| Country of Residence | Version2 Element - E06\_09 | The country of residence of the patient. |
| Social Security Number | Version2 Element - E06\_10 | The patient's social security number |
| Gender | Version2 Element - E06\_12 | The Patient's Gender |
| Race | Version2 Element - E06\_13 | The patient's race as defined by the OMB (US Office of Management and Budget) |
| Billing/Payment | Primary Method of Payment | Version2 Element - E07\_01 | The primary method of payment or type of insurance associated with this EMS encounter |
| Physician Certification Statement Signed | Version2 Element - E07\_02 | Indication of whether a physician certification statement (PCS) is available documenting the medical necessity or the EMS encounter. |
| Date Physician Certification Statement Signed | None | The date the Physician Certification Statement was signed |
| Reason for Physician Certification Statement | None | The reason for EMS transport noted on the Physician Certification Statement |
| Healthcare Provider Type Signing Physician Certification Statement | None | The type of healthcare provider who signed the Physician Certification Statement |
| Last Name of Individual Signing Physician Certification Statement | None | The last name of the healthcare provider who signed the Physician Certification Statement. |
| First Name of Individual Signing Physician Certification Statement | None | The first name of the healthcare provider who signed the Physician Certification Statement. |
| Insurance Company ID | Version2 Element - E07\_03 | The ID Number of the patient's insurance company. |
| Insurance Company Name | None | The name of the patient's insurance company. |
| Insurance Company Billing Priority | Version2 Element - E07\_04 | The billing priority or order for the insurance company. |
| Insurance Company Address | Version2 Element - E07\_05 | The mailing address of the Insurance Company |
| Insurance Company City | Version2 Element - E07\_06 | The insurance company's city or township used for mailing purposes. |
| Insurance Company State | Version2 Element - E07\_07 | The insurance company's state, territory, or province, or District of Columbia. |
| Insurance Company Zip code | Version2 Element - E07\_08 | The insurance company's ZIP Code |
| Insurance Company Country | None | The insurance company's country |
| Insurance Group ID | Version2 Element - E07\_09 | The ID number of the patient's insurance group |
| Insurance Policy ID Number | Version2 Element - E07\_10 | The ID number of the patient's insurance policy |
| Last Name of the Insured | Version2 Element - E07\_11 | The last (family) name of the person insured by the insurance company. |
| First Name of the Insured | Version2 Element - E07\_12 | The first (given) name of the person insured by the insurance company |
| Middle initial/name of the Insured | Version2 Element - E07\_13 | The middle name, if any, of the person insured by the insurance company. |
| Relationship to the Insured | Version2 Element - E07\_14 | The relationship of the patient to the primary insured person |
| Closest Relative/Guardian Last Name | Version2 Element - E07\_18 | The last (family) name of the patient's closest relative or guardian |
| Closest Relative/Guardian First Name | Version2 Element - E07\_19 | The first (given) name of the patient's closest relative or guardian |
| Closest Relative/Guardian Middle Initial/Name | Version2 Element - E07\_20 | The middle name/initial, if any, of the closest patient's relative or guardian. |
| Closest Relative/Guardian Street Address | Version2 Element - E07\_21 | The street address of the residence of the patient's closest relative or guardian |
| Closest Relative/Guardian City | Version2 Element - E07\_22 | The primary city or township of residence of the patient's closest relative or guardian. |
| Closest Relative/Guardian State | Version2 Element - E07\_23 | The state of residence of the patient's closest relative or guardian. |
| Closest Relative/Guardian Zip code | Version2 Element - E07\_24 | The ZIP Code of the residence of the patient's closest relative or guardian. |
| Closest Relative/Guardian Country | None | The country of residence of the patient's closest relative or guardian. |
| Closest Relative/Guardian Phone Number | Version2 Element - E07\_25 | The phone number of the patient's closest relative or guardian |
| Closest Relative/Guardian Relationship | Version2 Element - E07\_26 | The relationship of the patient's closest relative or guardian |
| Patient's Employer | Version2 Element - E07\_27 | The patient's employers Name |
| Patient's Employer's Address | Version2 Element - E07\_28 | The street address of the patient's employer |
| Patient's Employer's City | Version2 Element - E07\_29 | The city or township of the patient's employer used for mailing purposes |
| Patient's Employer's State | Version2 Element - E07\_30 | The state of the patient's employer |
| Patient's Employer's Zip code | Version2 Element - E07\_31 | The ZIP Code of the patient's employer |
| Patient's Employer's Country | None | The country of the patient's employer |
| Patient's Employer's Primary Phone Number | Version2 Element - E07\_32 | The employer's primary phone number. |
| Incident Facility or Location Name | None | The name of the facility, business, building, etc. associated with the scene of the EMS event. |
| History | Last Name of Patient's Practitioner | Version2 Element - E12\_01 | Indication of whether or not there were any patient specific barriers to serving the patient at the scene |
| First Name of Patient's Practitioner | Version2 Element - E12\_06 | The last name of the patient's practitioner |
| Middle Initial/Name of Patient's Practitioner | Version2 Element - E12\_04 | The first name of the patient's practitioner |
| Advanced Directives | Version2 Element - E12\_07 | The presence of a valid DNR form, living will, or document directing end of life or healthcare treatment decisions. |
| Medication Allergies | Version2 Element - E12\_08 | The patient's medication allergies |
| Environmental/Food Allergies | Version2 Element - E12\_09 | The patient's known allergies to food or environmental agents/ |
| Medical/Surgical History | Version2 Element - E12\_10 | The patient's pre-existing medical and surgery history of the patient |
| The Patient's Type of Immunization | Version2 Element - E12\_12 | The immunization type of the patient. |
| Immunization Year | Version2 Element - E12\_13 | The year associated with each immunization type |
| Current Medications | Version2 Element - E12\_14 | The medications the patient currently takes |
| Current Medication Dose | Version2 Element - E12\_15 | The numeric dose or amount of the patient's current medication |
| Current Medication Dosage Unit | Version2 Element - E12\_16 | The dosage unit of the patient's current medication |
| Current Medication Administration Route | Version2 Element - E12\_17 | The administration route (po, SQ, etc.) of the patient's current medication |
| Pregnancy | Version2 Element - E12\_20 | Indication of the possibility by the patient's history of current pregnancy. |
| Vitals | Date/Time Vital Signs Taken | Version2 Element - E14\_01 | The date/time vital signs were taken on the patient. |
| Cardiac Rhythm / Electrocardiography (ECG) | Version2 Element - E14\_02 | Indicates that the information which is documented was obtained prior to the documenting EMS units care. |
| ECG Type | Version2 Element - E14\_03 | The cardiac rhythm / ECG and other electrocardiography findings of the patient as interpreted by EMS personnel. |
| Method of ECG Interpretation | None | The method of ECG interpretation. |
| SBP (Systolic Blood Pressure) | Version2 Element - E14\_04 | The patient's systolic blood pressure. |
| DBP (Diastolic Blood Pressure) | Version2 Element - E14\_05 | The patient's diastolic blood pressure. |
| Method of Blood Pressure Measurement | Version2 Element - E14\_06 | Indication of method of blood pressure measurement. |
| Heart Rate | Version2 Element - E14\_07 | The patient's heart rate expressed as a number per minute. |
| Pulse Oximetry | Version2 Element - E14\_09 | The patient's oxygen saturation. |
| Pulse Rhythm | Version2 Element - E14\_10 | The clinical rhythm of the patient's pulse. |
| Respiratory Rate | Version2 Element - E14\_11 | The patient's respiratory rate expressed as a number per minute. |
| Respiratory Effort | Version2 Element - E14\_12 | The patient's respiratory effort. |
| Blood Glucose Level | Version2 Element - E14\_14 | The patient's blood glucose level. |
| Glasgow Coma Score-Eye | Version2 Element - E14\_15 | The patient's Glasgow Coma Score Eye opening. |
| Glasgow Coma Score-Verbal | Version2 Element - E14\_16 | The patient's Glasgow Coma Score Verbal. |
| Glasgow Coma Score-Motor | Version2 Element - E14\_17 | The patient's Glasgow Coma Score Motor |
| Glasgow Coma Score-Qualifier | Version2 Element - E14\_18 | Documentation of factors which make the GCS score more meaningful. |
| Total Glasgow Coma Score | Version2 Element - E14\_19 | The patient's total Glasgow Coma Score |
| Temperature | Version2 Element - E14\_20 | The patient's body temperature in degrees Celsius/centigrade. |
| Temperature Method | Version2 Element - E14\_21 | The method used to obtain the patient's body temperature. |
| Level of Responsiveness (AVPU) | Version2 Element - E14\_22 | The patient's highest level of responsiveness. |
| Pain Scale Score | Version2 Element - E14\_23 | The patient's indication of pain from a scale of 0-10. |
| Pain Scale Type | None | The type of pain scale used. |
| Stroke Scale Score | Version2 Element - E14\_24 | The findings or results of the Stroke Scale Type (eVitals.30) used to assess the patient exhibiting stroke-like symptoms. |
| Reperfusion Checklist | Version2 Element - E14\_25 | The results of the patient's Reperfusion Checklist for potential Thrombolysis use. |
| APGAR | Version2 Element - E14\_26 | The patient's total APGAR score (0-10). |
| Revised Trauma Score | Version2 Element - E14\_27 | The patient's Revised Trauma Score. |
| Response | EMS Agency Number | Version2 Element - E02\_01 | The state-assigned provider number of the responding agency |
| EMS Agency Name | None |  |
| Incident number | Version2 Element - E02\_02 | The incident number assigned by the 911 Dispatch System |
| EMS response number | Version2 Element - E02\_03 | The internal EMS response number which is unique for each EMS Vehicle's (Unit) response to an incident within an EMS Agency. |
| Type of service requested | Version2 Element - E02\_04 | The type of service or category of service requested of the EMS Agency responding for this specific EMS event |
| Standby Purpose | None | The main reason the EMS Unit is on Standby as the Primary Type of Service for the EMS event. |
| Primary Role of the Unit | Version2 Element - E02\_05 | The primary role of the EMS Unit which responded to this specific EMS event |
| Type of dispetche delay | Version2 Element - E02\_06 | The dispatch delays, if any, associated with the dispatch of the EMS unit to the EMS event. |
| Type of response delay | Version2 Element - E02\_07 | The response delays, if any, of the EMS unit associated with the EMS event. |
| Type of scene delay | Version2 Element - E02\_08 | The scene delays, if any, of the EMS unit associated with the EMS event. |
| Type of transport delay | Version2 Element - E02\_09 | The transport delays, if any, of the EMS unit associated with the EMS event. |
| Type of turn-around delay | Version2 Element - E02\_10 | The turn-around delays, if any, of EMS unit associated with the EMS event. |
| EMS vehical (unit) number | Version2 Element - E02\_11 | The unique physical vehicle number of the responding unit. |
| EMS unit call sign | Version2 Element - E02\_12 | The EMS unit number used to dispatch and communicate with the unit. This may be the same as the EMS Unit/Vehicle Number in many agencies. |
| Level of care for this unit | None | The level of care (BLS or ALS) the unit is able to provide based on the units' treatment capabilities for this EMS response. |
| Vehical Dispatch Location | Version2 Element - E02\_13 | The EMS location or healthcare facility representing the geographic location of the unit or crew at the time of dispatch. |
| Vehical Dispatch GPS Location | Version2 Element - E02\_15 | The GPS coordinates associated with the EMS unit at the time of dispatch documented in decimal degrees. |
| Vehicle Dispatch Location US National Grid Coordinates | None | The US National Grid Coordinates for the EMS Vehicle's Dispatch Location. |
| Beginning Odometer Reading of Responding Vehicle | Version2 Element - E02\_16 | The mileage (counter or odometer reading) of the vehicle at the beginning of the call (when the wheels begin moving). If EMS vehicle/unit is via water or air travel document the number in "hours" as it relates to the documentation of Boat, Fixed Wing, or Rotor Craft in eDisposition.16 (EMS Transport Method) |
| On-Scene Odometer Reading of Responding Vehicle | Version2 Element - E02\_17 | The mileage (counter or odometer reading) of the vehicle when it arrives at the scene. If EMS vehicle/unit is via water or air travel document the number in "hours" as it relates to the documentation of Boat, Fixed Wing, or Rotor Craft in eDisposition.16 (EMS Transport Method) |
| Patient Destination Odometer Reading of Responding Vehicle | Version2 Element - E02\_18 | The mileage (counter or odometer reading) of the vehicle when it arrives at the patient's destination. If EMS vehicle/unit is via water or air travel document the number in "hours" as it relates to the documentation of Boat, Fixed Wing, or Rotor Craft in eDisposition.16 (EMS Transport Method) |
| Ending Odometer Reading of Responding Vehicle | Version2 Element - E02\_19 | If using a counter, this is the mileage traveled beginning with dispatch through the transport of the patient to their destination and ending when back in service, starting from 0. If EMS vehicle/unit is via water or air travel document the number in "hours" as it relates to the documentation of boat, Fixed Wing, or Rotor Craft in eDisposition.16 |
| Response Mode to Scene | Version2 Element - E02\_20 | The indication whether the response was emergent or non-emergent. An emergent response is an immediate response (typically using lights and sirens). |
| Additional Response Mode Descriptors | None | The documentation of response mode techniques used for this EMS response. |
| Times | Dispatched Notified Date/Time | Version2 Element - E05\_03 | The date/time dispatch was notified by the 911 call taker (if a separate entity). |
| Unit Arrived on Scene Date/Time | Version2 Element - E05\_06 | The date/time the responding unit arrived on the scene; that is, the time the vehicle stopped moving at the scene. |
| Arrived at Patient Date/Time | Version2 Element - E05\_07 | The date/time the responding unit arrived at the patient's side. |
| Transfer of EMS Patient Care Date/Time | Version2 Element - E05\_08 | The date/time the patient was transferred from this EMS agency to another EMS agency for care. |
| Unit Left Scene Date/Time | Version2 Element - E05\_09 | The date/time the responding unit left the scene with a patient (started moving). |
| Arrival at Destination Landing Area Date/Time | None | The date/time the Air Medical vehicle arrived at the destination landing area. |
| Patient Arrived at Destination Date/Time | Version2 Element - E05\_10 | The date/time the responding unit arrived with the patient at the destination or transfer point. |
| Destination Patient Transfer of Care Date/Time | None | The date/time that patient care was transferred to the destination healthcare facilities staff. |
| Scene | First EMS Unit on Scene | None | Documentation that this EMS Unit was the first EMS Unit for the EMS Agency on the Scene |
| Type of Other Service at Scene | Version2 Element - E08\_02 | The type of public safety or EMS service associated with Other Agencies on Scene |
| Date/Time Initial Responder Arrived on Scene | Version2 Element - E08\_04 | The time that the initial responder arrived on the scene, if applicable. |
| Numbers of Patients on Scene | Version2 Element - E08\_05 | Indicator of how many total patients were at the scene |
| Mass Casualty Incident | Version2 Element - E08\_06 | Indicator if this event would be considered a mass casualty incident (overwhelmed existing EMS resources) |
| Triage Classification for MCI Patient | None | The color associated with the initial triage assessment/classification of the MCI patient. |
| Incident Location Type | Version2 Element - E08\_07 | The kind of location where the incident happened |
| Situation | Date/Time of Symptom Onset | Version2 Element - E05\_01 | The date and time the symptom began (or was discovered) as it relates to this EMS event. This is described or estimated by the patient, family, and/or healthcare professionals. |
| Possible Injury | Version2 Element - E09\_04 | Indication whether or not there was an injury |
| Complaint Type | None | The type of patient healthcare complaint being documented. |
| Complaint | Version2 Element - E09\_05 | The statement of the problem by the patient or the history provider. |
| Duration of Complaint | Version2 Element - E09\_06 | The duration of the complaint |
| Time Units of Duration of Complaint | Version2 Element - E09\_07 | The time units of the duration of the patient's complaint |
| Chief complaint Anatomic Location | Version2 Element - E09\_11 | The primary anatomic location of the chief complaint as identified by EMS personnel |
| Chief Complain organ system | Version2 Element - E09\_12 | The primary organ system of the patient injured or medically affected. |
| Priamry Symptom | Version2 Element - E09\_13 | The primary sign and symptom present in the patient or observed by EMS personnel |
| Other Associated symptoms | Version2 Element - E09\_14 | Other symptoms identified by the patient or observed by EMS personnel |
| Provider's Primary Impressions | Version2 Element - E09\_15 | The EMS personnel's impression of the patient's primary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Proveider's Secondary Impressions | Version2 Element - E09\_16 | The EMS personnel's impression of the patient's secondary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). |
| Initial Patient Acuity | None | The acuity of the patient's condition upon EMS arrival at the scene. |
| Injury | Cause of Injury | Version2 Element - E10\_01 | The category of the reported/suspected external cause of the injury. |
| Mechanism of Injury | Version2 Element - E10\_03 | The mechanism of the event which caused the injury |
| Vehicular, Pedestrian, or Other Injury Risk Factor | Version2 Element - E10\_04 | Mechanism and Special Considerations Field Trauma Triage Criteria (steps 3 and 4) as defined by the Centers for Disease Control. |
| Main Area of the Vehicle Impacted by the Collision | Version2 Element - E10\_05 | The area or location of initial impact on the vehicle based on 12-point clock diagram. |
| Location of Patient in Vehicle | Version2 Element - E10\_06 | The seat row location of the vehicle at the time of the crash with the front seat numbered as 1 |
| Use of Occupant Safety Equipment | Version2 Element - E10\_08 | Safety equipment in use by the patient at the time of the injury |
| Airbag Deployment | Version2 Element - E10\_09 | Indication of Airbag Deployment |
| Height of Fall (feet) | Version2 Element - E10\_10 | The distance in feet the patient fell, measured from the lowest point of the patient to the ground |
| OSHA Personal Protective Equipment Used | None | Documentation of the use of OSHA required protective equipment used by the patient at the time of injury. |
| Arrest | Cardiac Arrest | Version2 Element - E11\_01 | Indication of the presence of a cardiac arrest at any time during this EMS event. |
| Cardiac Arrest Etiology | Version2 Element - E11\_02 | ndication of the etiology or cause of the cardiac arrest (classified as cardiac, non-cardiac, etc.) |
| Resuscitation Attempted By EMS | Version2 Element - E11\_03 | Indication of an attempt to resuscitate the patient who is in cardiac arrest (attempted, not attempted due to DNR, etc.) |
| Arrest Witnessed By | Version2 Element - E11\_04 | Indication of who the cardiac arrest was witnessed by |
| CPR Care Provided Prior to EMS Arrival | None | Documentation of the CPR provided prior to EMS arrival |
| Who Provided CPR Prior to EMS Arrival | None | Documentation of who performed CPR prior to this EMS unit's arrival. |
| AED Use Prior to EMS Arrival | None | Documentation of AED use Prior to EMS Arrival |
| Who Used AED Prior to EMS Arrival | None | Documentation of who used the AED prior to this EMS unit's arrival. |
| Type of CPR Provided | None | Documentation of the type/technique of CPR used by EMS. |
| First Monitored Arrest Rhythm of the Patient | Version2 Element - E11\_05 | Documentation of what the first monitored arrest rhythm which was noted |
| Any Return of Spontaneous Circulation | Version2 Element - E11\_06 | Indication whether or not there was any return of spontaneous circulation. |
| Date/Time of Cardiac Arrest | Version2 Element - E11\_08 | The date/time of the cardiac arrest (if not known, please estimate). |
| Date/Time Resuscitation Discontinued | Version2 Element - E11\_09 | The date/time resuscitation was discontinued. |
| Reason CPR/Resuscitation Discontinued | Version2 Element - E11\_10 | The reason that CPR or the resuscitation efforts were discontinued. |
| Cardiac Rhythm on Arrival at Destination | Version2 Element - E11\_11 | The patient's cardiac rhythm upon delivery or transfer to the destination |
| End of EMS Cardiac Arrest Event | None | The patient's outcome at the end of the EMS event. |
| Date/Time of Initial CPR | None | The initial date and time that CPR was started by anyone. |
| Exam | Date/Time of Assessment | Version2 Element - E16\_03 | The date/time of the assessment |
| Skin Assessment | Version2 Element - E16\_04 | The assessment findings associated with the patient's skin. |
| Head Assessment | Version2 Element - E16\_05 | The assessment findings associated with the patient's head. |
| Face Assessment | None | The assessment findings associated with the patient's face. |
| Neck Assessment | Version2 Element - E16\_06 | The assessment findings associated with the patient's neck. |
| Chest/Lungs Assessment | Version2 Element - E16\_07 | The assessment findings associated with the patient's chest/lungs. |
| Heart Assessment | Version2 Element - E16\_08 | The assessment findings associated with the patient's heart. |
| Abdominal Assessment Finding Location | None | The location of the patient's abdomen assessment findings. |
| Abdominal Assessment Finding Location | None | The location of the patient's abdomen assessment findings. |
| Abdomen Assessment | Version2 Element - E16\_09 | The assessment findings associated with the patient's abdomen. |
| Pelvis/Genitourinary Assessment | Version2 Element - E16\_13 | The assessment findings associated with the patient's pelvis/genitourinary. |
| Back and Spine Assessment Finding Location | None | The location of the patient's back and spine assessment findings. |
| Back and Spine Assessment | Version2 Element - E16\_14 | The assessment findings associated with the patient's spine (Cervical, Thoracic, Lumbar, and Sacral) and back exam. |
| Extremity Assessment Finding Location | None | The location of the patient's extremity assessment findings. |
| Extremities Assessment | Version2 Element - E16\_17 | The assessment findings associated with the patient's extremities. |
| Eye Assessment Finding Location | None | The location of the patient's eye assessment findings. |
| Eye Assessment | Version2 Element - E16\_21 | The assessment findings of the patient's eye examination. |
| Mental Status Assessment | Version2 Element - E16\_23 | The assessment findings of the patient's mental status examination. |
| Neurological Assessment | Version2 Element - E16\_24 | The assessment findings of the patient's neurological examination. |
| Stroke/CVA Symptoms Resolved | None | Indication if the Stroke/CVA Symptoms resolved and when. |
| Medications | Date/Time Medication Administered | Version2 Element - E18\_01 | The date/time medication administered to the patient |
| Medication Administered Prior to this Unit's EMS Care | Version2 Element - E18\_02 | Indicates that the medication administration which is documented was administered prior to this EMS units care |
| Medication Given | Version2 Element - E18\_03 | The medication given to the patient |
| Medication Administered Route | Version2 Element - E18\_04 | The route medication was administered to the patient |
| Medication Dosage | Version2 Element - E18\_05 | The dose or amount of the medication given to the patient |
| Medication Dosage Units | Version2 Element - E18\_06 | The unit of medication dosage given to patient |
| Response to Medication | Version2 Element - E18\_07 | The patient's response to the medication |
| Medication Complication | Version2 Element - E18\_08 | Any complication (abnormal effect on the patient) associated with the administration of the medication to the patient by EMS |
| Medication Crew (Healthcare Professionals) ID | Version2 Element - E18\_09 | The statewide assigned ID number of the EMS crew member giving the treatment to the patient |
| Role/Type of Person Administering Medication | None | The type (level) of EMS or Healthcare Professional Administering the Medication. For medications administered prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Medication Authorization | Version2 Element - E18\_10 | The type of treatment authorization obtained |
| Medication Authorizing Physician | Version2 Element - E18\_11 | The name of the authorizing physician ordering the medication administration if the order was provided by any manner other than protocol (standing order) in EMedications.11 |
| Procedures | Date/Time Procedure Performed | Version2 Element - E19\_01 | The date/time the procedure was performed on the patient |
| Procedure Performed Prior to this Unit's EMS Care | Version2 Element - E19\_02 | Indicates that the procedure which was performed and documented was performed prior to this EMS units care. |
| Procedure | Version2 Element - E19\_03 | The procedure performed on the patient. |
| Size of Procedure Equipment | Version2 Element - E19\_04 | The size of the equipment used in the procedure on the patient |
| Number of Procedure Attempts | Version2 Element - E19\_05 | The number of attempts taken to complete a procedure or intervention regardless of success. |
| Procedure Successful | Version2 Element - E19\_06 | Indicates that this individual procedure attempt which was performed on the patient was successful. |
| Procedure Complication | Version2 Element - E19\_07 | Any complication (abnormal effect on the patient) associated with the performance of the procedure on the patient |
| Response to Procedure | Version2 Element - E19\_08 | The patient's response to the procedure |
| Procedure Crew Members ID | Version2 Element - E19\_09 | The statewide assigned ID number of the EMS crew member performing the procedure on the patient |
| Role/Type of Person Performing the Procedure | None | The type (level) of EMS or Healthcare Professional performing the procedure. For procedures performed prior to EMS arrival, this may be a non-EMS healthcare professional. |
| Procedure Authorization | Version2 Element - E19\_10 | The type of treatment authorization obtained |
| Procedure Authorizing Physician | Version2 Element - E19\_11 | The name of the authorizing physician ordering the procedure, if the order was provided by any manner other than protocol (standing order) in eProcedures.11 |
| Vascular Access Location | Version2 Element - E19\_12 | The location of the vascular access site attempt on the patient, if applicable. |
| Airway | Indications for Invasive Airway | None | The clinical indication for performing invasive airway management. |
| Date/Time Airway Device Placement Confirmation | None | The date and time the airway device placement was confirmed. |
| Airway Device Being Confirmed | None | The airway device in which placement is being confirmed. |
| Airway Device Placement Confirmed Method | None | The method used to confirm the airway device placement. |
| Tube Depth | None | The measurement at the patient's teeth/lip of the tube depth in centimeters (cm) of the invasive airway placed. |
| Type of Individual Confirming Airway Device Placement | None | The type of individual who confirmed the airway device placement. |
| Crew Member ID | None | The statewide assigned ID number of the EMS crew member confirming the airway placement. |
| Airway Complications Encountered | None | The airway management complications encountered during the patient care episode. |
| Suspected Reasons for Failed Airway Management | None | The reason(s) the airway was unable to be successfully managed. |
| Date/Time Decision to Manage the Patient with an Invasive Airway | None | The date and time the decision was made to manage the patient's airway with an invasive airway device. |
| Date/Time Invasive Airway Placement Attempts Abandoned | None | The date and time that the invasive airway attempts were abandoned for the patient. |
| Device | Medical Device Serial Number | None | The unique manufacturer's serial number associated with a medical device. |
| Date/Time of Event (per Medical Device) | Version2 Element - E21\_01 | The time of the event recorded by the device's internal clock |
| Medical Device Event Type | Version2 Element - E21\_02 | The type of event documented by the medical device. |
| Medical Device Waveform Graphic Type | Version2 Element - E21\_03 | The description of the waveform file stored in Waveform Graphic (eDevice.05). |
| Medical Device Waveform Graphic | Version2 Element - E21\_04 | The graphic waveform file. |
| Medical Device Mode (Manual, AED, Pacing, CO2, O2, etc) | Version2 Element - E21\_05 | The mode of operation the device is operating in during the defibrillation, pacing, or rhythm analysis by the device (if appropriate for the event) |
| Medical Device ECG Lead | Version2 Element - E21\_06 | The lead or source which the medical device used to obtain the rhythm (if appropriate for the event) |
| Medical Device ECG Interpretation | Version2 Element - E21\_07 | The interpretation of the rhythm by the device (if appropriate for the event) |
| Type of Shock | Version2 Element - E21\_08 | The type of shock used by the device for the defibrillation (if appropriate for the event) |
| Shock or Pacing Energy | Version2 Element - E21\_09 | The energy (in joules) used for the shock or pacing (if appropriate for the event) |
| Total Number of Shocks Delivered | Version2 Element - E21\_10 | The number of times the patient was defibrillated, if the patient was defibrillated during the patient encounter. |
| Pacing Rate | Version2 Element - E21\_11 | The rate the device was calibrated to pace during the event, if appropriate. |

|  |
| --- |
|  |

Volume 2 – Transactions

Add Section 3.Y

## 3.Y <Transaction Name [Domain Acronym-#]>

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

### 3.Y.1 Scope

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

### 3.Y.2 Actor Roles

<*Alternative 1*> Table 3.Y.2-1: Actor Roles

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of role names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete whichever form of the role section you choose not to use.>*

The roles in this transaction are defined in the following table and may be played by the actors shown here:

<*Alternative 2*>Table 3.Y.2-1 Actor Roles

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:  *<Actor Name>: <optionally, the situation where the actor would play this role if needed for clarity.>”* |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each role. The behavior of specific actors may also be specified when it goes beyond that of the general role.

### 3.Y.3 Referenced Standards

* *<e.g., HL7 2.3.1 Chapters 2, 3>*
* *<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>*
* *<e.g., applicable sub-sections in ITI TF-2x: Appendix Z on HL7 FHIR>*

### 3.Y.4 Interaction Diagram

<The interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction.>

Actor A

Message 1

Actor D

Message 2

#### 3.Y.4.1 <Message 1 Name>

<One or two sentence summary of what Message 1 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>

<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>

##### 3.Y.4.1.1 Trigger Events

<Description of the real world events that cause the sender (Actor A) to send Message 1 (e.g., an operator or an automated function determines that a new workitem is needed).>

##### 3.Y.4.1.2 Message Semantics

<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>

<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>

<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>

##### 3.Y.4.1.3 Expected Actions

<Description of the actions expected to be taken as a result of sending or receiving this message.>

<Describe what the receiver is expected/required to do upon receiving this message. >

<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>

<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>

#### 3.Y.4.2 <Message 2 Name>

<One or two sentence summary of what Message 2 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>

<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>

<Repeat this section as necessary based on the number of messages in the interaction diagram.>

##### 3.Y.4.2.1 Trigger Events

<Description of the real world events that cause the sender (Actor A) to send Message 1(e.g., an operator or an automated function determines that a new workitem is needed).>

##### 3.Y.4.2.2 Message Semantics

<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>

<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>

<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>

##### 3.Y.4.2.3 Expected Actions

<Description of the actions expected to be taken as a result of sending or receiving this message.>

<Describe what the receiver is expected/required to do upon receiving this message. >

<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>

<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>

### 3.Y.5 Protocol Requirements

<In this section, the selected protocol bindings of the transactions are explained in detail (like SOAP or HTTP bindings).For an example, see the QRPH DEX Profile or ITI TF-2b:3.34.5, 3.35.5. Indicate NA if not used.>

### 3.Y.6 Security Considerations

<Description of the transaction specific security consideration; such as use of security profiles.>

#### 3.Y.6.1 Security Audit Considerations

<This section should identify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. >

##### 3.Y.6.(z) <Actor> Specific Security Considerations

<This section should specify any specific security considerations on an actor-by-actor basis.>

Appendices

<Detailed cross transaction relationships or mapping details are described in an appendix in Volume 2x. Volume 2 appendices may be informational or normative. Immediately after the title of a Volume 2 appendix, provide a very explicit statement defining whether this new appendix is informative or normative.

If there are no Volume 2 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.

# Volume 2 Namespace Additions

<For Public Comment, please explicitly identify all new OIDs, UIDs, URNs, etc., defined specifically for this profile. These items should be collected from the sections above, and listed here as additions to the applicable domain OID Registry. This section will be deleted prior to inclusion into the Technical Framework as Final Text, but should be present for publication of Public Comment and Trial Implementation.>

At Trial Implementation publication, the domain technical committee **must** ensure that all new OIDs, UIDs, URNs, etc., defined specifically for this profile have been recorded in their OID Registry. This section will be deleted prior to inclusion into the Technical Framework Volumes as Final Text but should be present for publication of Public Comment and Trial Implementation.>

The <domain name> registry of OIDs is located at <link to your OID registry(ies)

Additions to the <Domain Name> OID Registry are:

Volume 3 – Content Modules

<The current version of the supplement template only addresses HL7 v3 CDA Content Modules. All CDA Content Modules will go in Section 6 of Volume 3 of each domain’s Technical Framework document. In the future, this supplement template may have additional sections for DICOM Content Modules (section 7 of Volume 3) and other types of Content Modules (section 8, etc., of Volume 3).

<Please note that prior to the release of the new template set, some domains may have defined CDA Content Modules in Volume 2 (e.g., PCC); however, going forward CDA Content Modules will be defined in Volume 3.>

# 5 IHE Namespaces, Concept Domains and Vocabularies

Add to Section 5 IHE Namespaces, Concept Domains and Vocabularies

## 5.1 IHE Namespaces

<**For Public Comment publication**, please explicitly identify all **new** OIDs, UIDs, URNs, etc., defined specifically for this profile. These items should be collected from the sections within this supplement and listed here as additions to the applicable domain OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework as Final Text, but should be present for publication for Public Comment.>

<**For Trial Implementation publication**, the domain technical committee **must** ensure that all new OIDs, UIDs, URNs, etc., defined specifically for this profile (and listed here for public comment publication have now been recorded in their OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework Volumes as Final Text but should be present for publication for Trial Implementation.>

<Ensure the domain’s registry of OIDs is linked to from the following wiki page. It may be another wiki page, a document on the ftp site, etc.>

The <domain name> registry of OIDs is located at <http://wiki.ihe.net/index.php/OID_Registration#IHE_Domain_Namespaces>

Additions to the <Domain Name> OID Registry are:

| codeSystem | codeSystemName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.2 IHE Concept Domains

<Concept Domains are named categories of things that are used when it isn’t possible to bind to a specific set of codes. There are a number of reasons you might not be able to define and bind to a specific set of codes, one of the most common being that the codes set needs to vary depending on locale or context.>

For a listing of the <Domain Acronym> Concept Domains see <enter location of the domains Concept Domains or NA if none>

| conceptDomain | conceptDomainName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.3 IHE Format Codes and Vocabularies

### 5.3.1 IHE Format Codes

List in the table below any **new** format codes to be added to the IHE Format Codes wiki page at <http://wiki.ihe.net/index.php/IHE_Format_Codes>. For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

| Profile | Format Code | Media Type | Template ID |
| --- | --- | --- | --- |
| <Profile name (profile acronym)> | <urn:ihe: > |  | <oids> |
|  |  |  |  |
|  |  |  |  |

### 5.3.2 IHEActCode Vocabulary

List in the table below, any **new** additions to the IHEActCode Vocabulary wiki page at <http://wiki.ihe.net/index.php/IHEActCode_Vocabulary>. For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

|  |  |
| --- | --- |
| Code | Description |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |

### 5.3.3 IHERoleCode Vocabulary

List in the table below any **new** additions to the IHERoleCode Vocabulary wiki page at <http://wiki.ihe.net/index.php/IHERoleCode_Vocabulary>. For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

| Code | Description |
| --- | --- |
| <name of role> | <Short, one sentence description of role or reference to more info.> |
| <name of role> | <Short, one sentence description of role or reference to more info.> |
| <name of role> | <Short, one sentence description of role or reference to more info.> |

# 6 Content Modules

<Authors’ notes: This section of the supplement template is only for HL7 v3 CDA Content Module definitions. Please delete the entire section 6.3.1 if the Content Module is based on DICOM or another standard.

Please note that the template for DICOM or other types of content modules (other than CDA) has not yet been defined, although DICOM modules will eventually go into Volume 3 Section 7; yet another type of content module will go into Volume 3 Section 8, etc.>

### 6.3.1 CDA Document Content Modules

<Authors’ instructions: The understanding of content module grouping, options, and bindings are critical to CDA content modules. It is strongly recommended that the author review the IHE Technical Frameworks General Introduction section 10.3 and the Patient Care Coordination (PCC) Technical Framework Volume 2 sections 3 and 4 (PCC TF-2:3 and 4) prior to continuing. A critical understanding of CDA definitions for cardinality, optionality, coded terminology values, and CDA content module structure, as well as IHE CDA formatting conventions is also necessary. It is strongly recommended that the author is also conversant with the IHE Technical Frameworks General Introduction Appendix E “Conventions”.>

<This CDA Content Module template is divided into four parts:

D – Document –“D” will be replaced with a sub-section number when added to the Technical Framework

H – Header - “H” will be replaced with a sub-section number when added to the Technical Framework

S – Section - “S” will be replaced with a sub-section number when added to the Technical Framework

E – Entry - “E” will be replaced with a sub-section number when added to the Technical Framework

It is expected that the author will **replicate** each of these four parts as necessary within a supplement.>

**All examples should be deleted after the example has been read and understood.>**

Add to section 6.3.1.D Document Content Modules

<Authors’ Note: Replicate section 6.3.1.D for every CDA Document defined in this profile. Number as 6.3.1.**D1**, 6.3.1.**D2**, etc.>

#### 6.3.1.D <Content Module Name (Acronym)> Document Content Module

##### 6.3.1.D.1 Format Code

The XDSDocumentEntry format code for this content is **urn:ihe:dom:name:year**

<where **dom** is the domain abbreviation; **name** is an identifying profile, transaction, etc. name; and **year** is the year the profile is expected to reach trial implementation. For example, urn:ihe:card:imaging:2011>

##### 6.3.1.D.2 Parent Template

<The following text is common, so it is left here for consistency. If it is not relevant, then change the text to the accurate information, but retain the formatting convention. Be sure to include **all** parent templates.>

<e.g., This document is a specialization of the IHE PCC Medical Document template (OID = 1.3.6.1.4.1.19376.1.5.3.1.1.1).>

<e.g., Note: The Medical Document includes requirements for various header elements; name, addr and telecom elements for identified persons and organizations; and basic participations record target, author, and legal authenticator.>

<e.g., This document is a specialization of the HL7 Procedure Note template (OID = 2.16.840.1.113883.10.20.18.1).>

<e.g., Note: This document is not a specialization of the HL7 Basic Diagnostic Imaging Report template due to conflicts with two Procedure Note requirements (format of serviceEvent/effectiveTime, and title on DICOM Catalogue section). When and if these are resolved, an instance may also comply to the Diagnostic Imaging Report.>

##### 6.3.1.D.3 Referenced Standards

<Identify **all** standards referenced by **this** content module.>

All standards which are reference in this document are listed below with their common abbreviation, full title, and link to the standard.

Table 6.3.1.D.3-1: <Document Name> - Referenced Standards

| Abbreviation | Title | URL |
| --- | --- | --- |
| <abbreviated name of standard> | <full name of standard> | <link to standard> |
| <abbreviated name of standard> | <full name of standard> | <link to standard> |
| <e.g., CDA-PN> | <e.g., HL7 Implementation Guide for CDA Release 2: Procedure Note (Universal Realm) (DSTU)> | <e.g., http://www.hl7.org/documentcenter/public/standards/dstu/CDAR2\_IG\_PROCNOTE\_DSTU\_R1\_2010JUL.zip> |

##### 6.3.1.D.4 Data Element Requirement Mappings to CDA

This section identifies the mapping of data between referenced standards into the CDA implementation guide.

<Any required data mappings should be listed in this section (mark NA if not needed). Delete SAMPLE table before publishing.>

*<To complete Table 6.3.1.D.4-1, the author should add the referenced standards abbreviations in the first row/title bar. Add or delete columns and sub-rows as necessary. If this table is more than 8 to 10 rows long, consider putting this table into an appendix of this supplement. A brief sample follows.>*

SAMPLE

| ACC Key Data Element (KDECI) | CDA-DIR |
| --- | --- |
|  | DICOM Object Catalog (5) |
| Administrative  Facility (5)  Data Source (1)  Priority (1)  Accreditation (2)  Insurance (1) | CDA Header  General (10)  Document (19)  Participants (20)  Order (1)  Service Event (12)  Encounter (10) |
| Study Referral Data (2) | Request |
| History and Risk Factors  Vital Signs (4)  Labs (2)  Problems (14)  Chest Pain (5)  Family History (1)  Tobacco Use (1)  Risk Estimates (6) | History |

*>*

Table 6.3.1.D.4-1: < Document Name Acronym> - Data Element Requirement Mappings to CDA

| Clinical Data Element <source> | < this document acronym> |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

<**Very important note:** From this point forward, the author may select one of two formats to represent the same data. The first format is a tabular format as was implemented in the Cardiology CIRC profile. The advantages to this format include that large amounts of data may be represented more concisely and that it is sometimes visually easier to determine if any information is missing. The second format is more similar to the current Consolidated CDA (C-CDA format). This format may be more verbose but may also be more recognizable to implementers familiar with other HL7 CDA Implementation Guides and may be easier for implementers to design and test with discrete conformance assertions.

The format that you select must be consistent through this supplement (do not mix and match formats). The format changes are identified by ###Begin Tabular format ###End CDA Tabular format and ###Begin Discrete Conformance format ###End Discrete Conformance format. Delete all references to the format which was not selected between the hash marks. Also, a domain may decide on a single format for all new supplements within that domain.>

##### 6.3.1.D.5 <Content Module Name (Acronym, if applicable)> Document Content Module Specification

This section specifies the header, section, and entry content modules which comprise the <Content Module Name (Acronym)> Document Content Module, using the Template ID as the key identifier.

Sections that are used according to the definitions in other specifications are identified with the relevant specification document. Additional constraints on vocabulary value sets, not specifically constrained within the section template, are also identified.

<Authors’ note: A critical understanding of CDA definitions for cardinality, optionality, coded terminology values, and CDA content module structure, as well as IHE CDA formatting conventions is necessary. It is strongly recommended that the author is also conversant with the IHE Technical Frameworks General Introduction Appendix E “Conventions”. >

###Begin Tabular format - Document

Table 6.3.1.D.5-1 <Content Module Name (Acronym)> Document Content Module Specification

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Template Name | | <Template Name (Acronym, if applicable)> | | | |
| Template ID | | <oid/uid> | | | |
| Parent Template | | <Parent Template Name oid/uid [Domain Reference]>  <Parent Template Name oid/uid [Domain Reference]> <delete 2nd/additional parent template if not applicable>  <Enter NA if none> | | | |
| General Description | | <short textual description> | | | |
| Document Code | | <MAY or SHALL> be < code/oid/uid, Code System, “Value Set name”> | | | |
| Opt and Card | Condition | Header Element or Section Name | Template ID | Specification Document | Vocabulary Constraint |
| Header Elements | | | | | |
| x [?..?] |  | <Header Element name> | <oid> | <reference to section of TF or supplement document for details> | <reference to section of TF or supplement document for explanation, if applicable> |
| <e.g., R [0..1] |  | Order | 1.3.6.1.4.1.19376.1.4.1.3.2 | CARD TF-3 6.3.2.H> |  |
| <e.g., M [1..1] |  | Patient Demographics | 1.3.6.1.4.1.19376.1.4.1.3.3 | CARD TF-3 6.3.2.H | CARD TF-3 6.3.1.D.5.1> |
| Sections | | | | | |
| x [?..?] |  | <Section name> | <oid> | <reference to section of TF or supplement document for details> | <reference to section of TF or supplement document for explanation, if applicable> |
| <e.g., M [1..1] |  | Medications | 1.3.6.1.4.1.19376.1.5.3.1.3.19 | PCC TF-2 | CARD TF-3 6.3.1.D.5.2> |
| <e.g., R [1..1] |  | Coded Social History | 1.3.6.1.4.1.19376.1.5.3.1.3.16.1 | CARD TF-3 6.3.3.S | CARD TF-3 6.3.1.D.5.3> |
| <e.g., O [0..1] |  | Physical Examination | 2.16.840.1.113883.10.20.2.10 | CDA-PN> |  |
| <e.g., C [1..1] | CARD TF-3 6.3.1.D.5.4 | DICOM Object Catalog | 1.3.6.1.4.1.19376.1.4.1.2.15 | CDA-PN> |  |

<For each (1:1 correspondence) Vocabulary Constraint or Condition listed in the table above, create an additional section/reference below. Add the Header Element or Section Name and then select either “Vocabulary Constraint” or “Condition” and delete the other word.>

<Note that every Conditional element MUST have an explanatory paragraph referenced below.>

<It is required to use SHALL, SHOULD, or MAY in each definition as defined in Appendix E of the Technical Frameworks General Introduction.>

###### 6.3.1.D.5.1 <Header Element or Section Name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., The value for serviceEvent / code SHOULD be drawn from value set 1.3.6.1.4.1.19376.1.4.1.5.2 Cardiac Imaging Procedures.

OR

The value for serviceEvent/code SHOULD be drawn from the value set bound to the concept domain UV\_CardiacImagingProcedures.>

###### 6.3.1.D.5.2 <Header Element or Section Name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., Within the Medications section the Content Creator SHALL be able to create a Medications entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.7 [PCC TF-2]) for each of the cardiac relevant medications identified in Value Set 1.3.6.1.4.1.19376.1.4.1.5.14 Cardiac Drug Classes, encoding the value in substanceAdministration/consumable/ManufacturedProduct/Material/code.

OR

Within the Medications section the Content Creator SHALL be able to create a Medications entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.7 [PCC TF-2]) for each of the cardiac relevant medications identified in the value set bound to the concept domain UV\_CardiacRelevantMedications, encoding the value in substanceAdministration/consumable/ManufacturedProduct/Material/code.

>

###### 6.3.1.D.5.3 <Header Element or Section Name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., Within the Allergies and Other Adverse Reactions section the Content Creator SHALL be able to create an Allergies and Intolerances Concern Entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.5.3 [PCC TF-2]) for each of the cardiac imaging agent classes identified in Value Set 1.3.6.1.4.1.19376.1.4.1.5.10 Contrast Agents Classes for Adverse Reactions, encoding the value in observation/participant/participantRole/playingEntity/code.

OR

Within the Allergies and Other Adverse Reactions section the Content Creator SHALL be able to create an Allergies and Intolerances Concern Entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.5.3 [PCC TF-2]) for each of the cardiac imaging agent classes identified in value set bound to the concept domain UV ContrastAgentsClasses, encoding the value in observation/participant/participantRole/playingEntity/code.

>

###### 6.3.1.D.5.4 <Header Element or Section Name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., A DICOM Object Catalog Section SHALL be present if other document sections contain references to DICOM SOP Instances (images, structured report measurements, or other information objects), and MAY be present otherwise.>

**###End Tabular Format - Document**

**###Begin Discrete Conformance Format - Document**

*<Delete the example information contained in the material below (from Cardiology CRC)>*

<e.g., The complete set of body constraints, including those from C-CDA section/entry definitions are:

1. SHALL contain exactly one [1..1] **component** (CONF:9588).
   1. A Cath Report Content **SHALL** have a structuredBody (CONF:9589-CRC).
      1. A Cath Report Content **SHALL** conform to CDA Level 3 (structuredBody containing sections that contain a narrative block and coded entries). In this template (templateId 2.16.840.1.113883.10.20.22.1.6), coded entries are optional. (CONF:9590-CRC).
   2. The component/structuredBody SHALL conform to the section constraints below (CONF:9595-CRC).
      1. Each section SHALL have a title and the title SHALL not be empty (CONF:9937).>

<The following table shows relationships among the templates in the body of a Cath Report Content document.>

Table 6.3.1.D.5-1 <Content Module Name (Acronym)> Document Content Module Specification

| Template Title | Opt and Card | Condition | Template Type | templateId | Vocabulary  Constraints |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| Delete this row and the example information in the rows below. | | | | | |
| <e.g., Cath Report Content | R[1..1] |  | document | 1.3.6.1.4.1.19376.1.4.1.1.2 | 6.3.1.D.5.1 |
| Document Summary-Cardiac Section | O[0..1] |  | Section | 1.3.6.1.4.1.19376.1.4.1.2.16 |  |
| Medical History - Cardiac Section | R[1..1] |  | Section | 1.3.6.1.4.1.19376.1.4.1.2.17 |  |
| Procedure Activity Observation | O[0..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.13 |  |
| Procedure Activity Procedure | O[0..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.14 |  |
| Problem Observation - Cardiac | O[0..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.4 |  |
| Age Observation | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.31 |  |
| Health Status Observation | O[0..1] | 6.3.1.D.5.2 | Entry | 2.16.840.1.113883.10.20.22.4.5 |  |
| Problem Status | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.6 |  |
| Severity Observation | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.8 |  |
| Allergies Section | R[1..1] |  | Section | 2.16.840.1.113883.10.20.22.2.6 |  |
| Allergy Problem Act | O[0..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.30 |  |
| Allergy Observation | R[1..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.7 |  |
| Allergy Status Observation | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.28 |  |
| Reaction Observation | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.9 |  |
| Severity Observation | O[0..1] |  | Entry | 2.16.840.1.113883.10.20.22.4.8 |  |
| Family History – Cardiac Section | O[0..1] |  | Section | 1.3.6.1.4.1.19376.1.4.1.2.18 |  |
| Problem Observation - Cardiac | O[0..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.4 |  |
| Social History Section | O[0..1] |  | Section | 2.16.840.1.113883.10.20.22.2.17 |  |
| Physical Exam Section | R[1..1] |  | Section | 2.16.840.1.113883.10.20.2.10 |  |
| Vital Signs | R[1..1] |  | Section | 2.16.840.1.113883.10.20.22.2.4.1 |  |
| Vital Signs Organizer | R[1..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.26 |  |
| Vital Sign Observation | R[2..\*] |  | Entry | 2.16.840.1.113883.10.20.22.4.27> |  |

<For each (1:1 correspondence) Vocabulary Constraint or Condition listed in the table above, create an additional section/reference below. Add the Header Element or Section Name and then select either “Vocabulary Constraint” or “Condition” and delete the other word.>

<Note that every Conditional element MUST have an explanatory paragraph referenced below.>

<It is required to use SHALL, SHOULD, or MAY in each definition as defined in Appendix E of the Technical Frameworks General Introduction.>

###### 6.3.1.D.5.5 <Template Title name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., The value for serviceEvent / code SHOULD be drawn from value set 1.3.6.1.4.1.19376.1.4.1.5.2 Cardiac Imaging Procedures.

OR

The value for serviceEvent / code SHOULD be drawn from the value set bound to the concept domain UV\_CardiacImagingProcedures

>

###### 6.3.1.D.5.6 <Template Title name> <Vocabulary Constraint or Condition>

<add vocabulary constraint or condition definition>

<remove example below prior to public comment:>

<e.g., Within the Medications section the Content Creator SHALL be able to create a Medications entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.7 [PCC TF-2]) for each of the cardiac relevant medications identified in Value Set 1.3.6.1.4.1.19376.1.4.1.5.14 Cardiac Drug Classes, encoding the value in substanceAdministration/consumable/ManufacturedProduct/Material/code.

OR

Within the Medications section the Content Creator SHALL be able to create a Medications entry (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.7 [PCC TF-2]) for each of the cardiac relevant medications identified in the value set bound to the concept domain UV\_CardiagDrugClasses, encoding the value in substanceAdministration/consumable/ManufacturedProduct/Material/code.

>

**###End Discrete Conformance Format - Document**

##### 6.3.1.D.6 <Document and Acronym Name> Conformance and Example

<This section is the same, independent of whether the tabular or discrete conformance formats were chosen.>

<Describe the conformance of this document in terms of inheritance from other templates. Use the OIDs of those templates for clarity. A complete example of this document MUST be placed on the IHE ftp server as part of the Public Comment process of a Content Module supplement at ftp://ftp.ihe.net/TF\_Implementation\_Material/. The file naming convention for these files should be <Domain Acronym>\_<Profile Acronym>\_CDA-sample\_<version number>.xml where version number is the version number of the profile>.

CDA Release 2.0 documents that conform to the requirements of this document content module shall indicate their conformance by the inclusion of the <templateId> XML elements in the header of the document.

A CDA Document may conform to more than one template. This content module inherits from the *<template name(s) and template ID(s)>* <e.g., CDA-PN, 2.16.840.1.113883.10.20.18.1, and the PCC TF Medical Document, 1.3.6.1.4.1.19376.1.5.3.1.1.1, content modules> and so must conform to the requirements of those templates as well this document specification, *<templateName and templateID>* <e.g., Cardiac Imaging Report template, 1.3.6.1.4.1.19376.1.4.1.1.1>.

A complete example of the <Content Module Name and Acronym> Document Content Module is available on the IHE ftp server at: <indicate location here>.

Note that this is an example and is meant to be informative and not normative. This example shows the <templateId (OIDs)> elements for all of the specified templates.

Add to section 6.3.2 Header Content Modules

### 6.3.2 CDA Header Content Modules

#### 6.3.2.H <Header Element Module Name> Header Content Module

<Authors’ Note: Replicate section 6.3.2.H for each Header Content Module defined in this profile. Number as 6.3.2.H**1**, 6.3.2.H**2**, etc.>

**###Begin Tabular Format - Header**

<Either the Parent Template OR the Header Element may constrain this Header Element, not both. One should be “N/A”.>

<The values in the column “Participations and Act Relationships” must come from the defined terms in the CDA schema. See the IHE Technical Frameworks General Introduction, Appendix E: CDA Conventions.>

Table 6.3.2.H-1 <Content Module Name (Acronym)> Header

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Template Name | | <Template Name> | | | | |
| Template ID | | <oid> | | | | |
| Parent Template | | <Name and oid of parent template or NA> | | | | |
| Header Element | | <CDA Header Elements participant or componentOf or NA>  e.g., componentOf / encompassingEncounter | | | | |
| General Description | | <short textual description. Short paragraph at most.> | | | | |
| Opt and Card | Participation/ Act Relationship | Description | Template | Specification Document | Vocabulary Con-straint |
| x [?..?] | <select from defined part /act relationship terms; App E> | <Header Content description name> | <oid> | <document reference, if applicable> | <Vocab constraint, if applicable> |
|  |  |  |  |  |  |
| <e.g., R [1..1] | RESP | Responsible Party |  | CARD TF-3: 6.3.2.H.1> |  |
| <e.g., R [1..1] | LOC | Health Care Facility |  | CARD TF-3: 6.3.2.H.2> |  |
| <e.g., O [0..1] | REF | Referring Provider |  | CARD TF-3: 6.3.2.H.3> |  |
| <e.g., C [0..1] | ATND | Physician of Record | 2.16.840.1.113883.10.20.6.2.2 | CDA-DIR | CARD TF-3: 6.3.2.H.4> |

*<For each Vocabulary Constraint or Specification Document listed in the table above, create an additional section/reference below. Add the Description Name and then select either “Vocabulary Constraint” or “Spec Document” and delete the other word.>*

*<It is required to use SHALL, SHOULD, or MAY in each definition as defined in Appendix E of the Technical Frameworks General Introduction.>*

*<Also note that the Specification Document link can be a link to an outside document/reference. Do not replicate (cut and paste) sections of other documents into this document since they could become out of sync.>*

##### 6.3.2.H.1 <Description Name> <e.g., Responsible Party> <Specification Document *or* Vocabulary Constraint>

<Describe constraints or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The responsible party element represents only the party responsible for the encounter, not necessarily the entire episode of care.>

<e.g., The responsibleParty element MAY be present. If present, responsibleParty/ assignedEntity SHALL have at least one assignedPerson or representedOrganization element present.>

<e.g., Note: This is identical to CDA-DIR CONF-DIR-67>

<e.g., responsibleParty assignedEntity id SHALL be present with the responsible physician’s identifier.>

<e.g., assignedEntity code SHOULD be present with the responsible physician’s specialty.>

<e.g., assignedEntity MAY include an accreditation element from the **urn:ihe:card** namespace to provide physician accreditation status.>

<e.g., The accreditation element SHALL use the character string (ST) data type.

The accreditation element SHALL appear after the defined elements of the Role class, and before any scoper or player entity elements.>

<e.g., assignedEntity assignedPerson name SHALL be present with the responsible physician’s name.>

##### 6.3.2.H.2 <Description Name> <Specification Document OR Vocabulary Constraint>

##### 6.3.2.H.3 <Description Name> <Specification Document OR Vocabulary Constraint>

**###End Tabular Format – Header**

**###Begin Discrete Conformance Format – Header**

The header for the <*Document Name*> document shall support the following header constraints as noted in this section. Note that this content profile is realm agnostic. These header constraints are based on the C-CDA header constraints but all references to US Realm specific types have been removed.

<An example is provided to demonstrate the desired consistent use and format. Delete this example prior to publication for Public Comment. The statement must be numbered, begin with SHALL/SHOULD/MAY, identify the cardinality using [n..n], the name of the element, and a subitem which describes the value or source of the information.>

<e.g.,

1. SHALL contain exactly one [1..1] **typeId** (CONF:5361).
   1. This typeId SHALL contain exactly one [1..1] **@root**="2.16.840.1.113883.1.3" (CONF:5250).
   2. This typeId SHALL contain exactly one [1..1] **@extension**="POCD\_HD000040" (CONF:5251).
2. SHALL contain exactly one [1..1] **templateId** (CONF:5252) such that it
   1. SHALL contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.4.1.1.2" for the Cath Report Content document template (CONF:CRC-xxx).
3. SHALL contain exactly one [1..1] **id** (CONF:5363).
   1. This id **SHALL** be a globally unique identifier for the document (CONF:9991).
4. SHALL contain exactly one or two [1..2] **code** (CONF:5253-CRC).
   1. SHALL be selected from ValueSet ProcedureNoteDocumentTypeCodes 2.16.840.1.113883.11.20.6.1 DYNAMIC (CONF:8497). Either or both of the following codes should be included:

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: ProcedureNoteDocumentTypeCodes 2.16.840.1.113883.11.20.6.1 DYNAMIC  Code System: LOINC 2.16.840.1.113883.6.1 | | | |
| LOINC Code | Type of Service ‘Component’ | Setting ‘System’ | Specialty/Training/Professional Level ‘Method\_Type’ |
| 18745-0 | Study report | Heart | Cardiac catheterization |
| 34896-1 | Interventional procedure note | {Setting} | Cardiology |

1. SHALL contain exactly one [1..1] **title** (CONF:5254).
   1. Can either be a locally defined name or the display name corresponding to clinicalDocument/code (CONF:5255).>

**###End Discrete Conformance Format – Header**

### 6.3.3 CDA Section Content Modules

Add to section 6.3.3.10 Section Content Modules

< Authors’ Note: Replicate section 6.3.3.10.S for each Section Content Module defined in this profile. Number as 6.3.3.10.S**1**, 6.3.3.10.S**2**, etc.>

<Authors’ notes: Section naming instructions: If a section is a specialization of an existing section, begin the name with the original section name. For example, if Cardiology is creating a specialization of the “Medical History Section”, the new section should be named “Medical History Section – Cardiac” and not “Cardiac Medical History Section”.>

**###Begin Tabular Format - Section**

<Delete examples in rows of table below prior to Public Comment.>

#### 6.3.3.10.S <Section Module Name> - Section Content Module

Table 6.3.3.10.S-1 <Section Module Name> Section

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Template Name | | <exact same Section Module name listed above> | | | |
| Template ID | | <oid> | | | |
| Parent Template | | <Parent Template Name oid/uid [Domain - Reference] or NA> | | | |
| General Description | | <brief textual description, one paragraph> | | | |
| Section Code | | <Code, Code Scheme, “Section Code Name”> | | | |
| Author | | <If inherited from encompassing content module use “current recordTarget”, unless otherwise specified. Role and entity must be specified if not inherited. > | | | |
| Informant | | <If inherited from encompassing content module use “current recordTarget”, unless otherwise specified.> | | | |
| Subject | | <If inherited from encompassing content module use “current recordTarget”, unless otherwise specified.> | | | |
| Opt and Card | Condition | Data Element or Section Name | Template ID | Specification Document | Vocabulary  Constraint |
| Subsections | | | | | |
| x [?..?] | <ref or link to cond section below, if applicable> | <name of subsection> | <oid> | <reference or link to specification document location, if applicable> | <reference or link to vocab constraint, if applicable> |
| <e.g., O [0..1] |  | Active Problems | 1.3.6.1.4.1.19376.1.5.3.1.3.6 | PCC TF-3> |  |
| <e.g., O [0..1] |  | History of Present Illness | 1.3.6.1.4.1.19376.1.5.3.1.3.4 | PCC TF-3> |  |
| <e.g., O [0..1] |  | History of Past Illness | 2.16.840.1.113883.10.20.2.9 | CDA-PN> |  |
| Entries | | | | | |
| x [?..?] | <ref or link to cond section below, if applicable> | <name of entry> | <oid> | <reference or link to specification document location, if applicable> | <reference or link to vocab constraint, if applicable> |
| <e.g., C [1..\*] | CARD TF-3 6.3.3.x.S.1 | Problem Concern Entry | 1.3.6.1.4.1.19376.1.5.3.1.4.5.2 | PCC TF-3> |  |
| <e.g., C [1..1] |  | Diabetes Problem Entry | 1.3.6.1.4.1.19376.1.4.1.4.1 | CARD TF-3 6.3.3.1> |  |
| <e.g., C [1..1] |  | Angina Problem Entry | 1.3.6.1.4.1.19376.1.4.1.4.2 | CARD TF-3 6.3.3.1> |  |
| <e.g., C [1..\*] | CARD TF-3 6.3.3.x.S.1 | Simple Observation | 1.3.6.1.4.1.19376.1.5.3.1.4.13 | PCC TF-3 | CARD TF-3 6.3.3.x.S.2> |

##### 6.3.3.10.S.1 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

<Describe constraints; refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The Medical History Section SHALL contain at least one Problem Concern Entry or at least one Simple Observation.

Note: Problems MAY be recorded directly in the Medical History Section, or in one or more subsections such as Active Problems, History of Present Illness, or History of Past Illness.>

##### 6.3.3.10.S.2 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

<Describe constraints, refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., A Content Creator SHALL be able to include a Problem Concern Entry for each of the conditions identified in Value Set [1.3.6.1.4.1.19376.1.4.1.5.4 Cardiac Problems/Concerns](#_1.3.6.1.4.1.19376.1.4.1.5.4__Cardia), encoding the value in act/entryRelationship/observation/code.

A Problem Concern Entry for {73211009, SNOMED CT, diabetes} SHALL use the specialized Diabetes Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.1).

A Problem Concern Entry for {194828000, SNOMED CT, angina} SHALL use the specialized Angina Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.2).

OR

A Content Creator SHALL be able to include a Problem Concern Entry for each of the conditions identified in the Concept Domain UV\_CardiacProblems (See section X.X for the description/list of concepts in this domain), encoding the value in act/entryRelationship/observation/code.

A Problem Concern Entry for “diabetes” SHALL use the specialized Diabetes Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.1).

A Problem Concern Entry for “angina” SHALL use the specialized Angina Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.2).

>

##### 6.3.3.10.S.3 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

**###End Tabular Format – Section**

**###Begin Discrete Conformance Format – Section**

<An example is provided to demonstrate the desired consistent use and format. Delete this example prior to publication for Public Comment. The statements must be numbered, begin with SHALL/SHOULD/MAY identify the cardinality using [n..n], the name of the element, and a subitem which described the value or source of the information.>

<e.g.,

#### 6.3.3.10.S Medical History - Cardiac Section 11329-0

[section: templateId 1.3.6.1.4.1.19376.1.4.1.2.17(open)]

[section: templateId 2.16.840.1.113883.10.20.22.2.39(open)]

The Medical History section describes all aspects of the medical history of the patient even if not pertinent to the current procedure, and may include chief complaint, past medical history, social history, family history, surgical or procedure history, medication history, and other history information. The history may be limited to information pertinent to the current procedure or may be more comprehensive. The history may be reported as a collection of random clinical statements or it may be reported categorically. Entries for History of Past Illness and History of Present Illness have been consolidated into this section. Social and Family History are discussed in their own sections. For this Cath Report Content profile, this section may also contain history about specific relevant problems as problem observations.

In the event that the patient was transferred from another facility where there was a problem indication that the patient was determined to need a cath procedure, this will be noted as a problem observation in this medical history section as text in the narrative for now until there is a code representing this.

1. SHALL contain exactly two [2..2] templateId (CONF:8160) such that it
   1. SHALL contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.4.1.2.17" (CONF:10403-CRC).
   2. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.39" (CONF:10403).
2. SHALL contain exactly one [1..1] code/@code="11329-0" Medical (General) History (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8161).
3. SHALL contain exactly one [1..1] title (CONF:8162).
4. SHALL contain exactly one [1..1] text (CONF:8163).
5. MAY contain zero or more [0..\*] entry (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] Problem Observation - Cardiac (1.3.6.1.4.1.19376.1.4.1.4.9) (CONF:CRC-xxx).
6. MAY contain zero or more [0..\*] **entry** (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] **Procedure Activity Observation** (2.16.840.1.113883.10.20.22.4.13) (CONF:CRC-xxx).
7. MAY contain zero or more [0..\*] entry (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] Procedure Activity Procedure (2.16.840.1.113883.10.20.22.4.14) (CONF:CRC-xxx).

<section>

<templateId root="1.3.6.1.4.1.19376.1.4.1.2.17"/>

<templateId root="2.16.840.1.113883.10.20.22.2.39"/>

<code code="11329-0" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="MEDICAL (GENERAL) HISTORY"/>

<title>MEDICAL (GENERAL) HISTORY</title>

<text>

<list listType="ordered">

<item>Patient has had a recent issue with chest pain that does not seem to be related to any particular cause.</item>

<item>Previous concerns of heart disease were actually related to other causes.</item>

<item>Patient had recent weight gain due to sedentary lifestyle and

new job.</item>

</list>

</text>

<entry>

<observation classCode=”OBS” moodCode=”EVN”>

<templateId root=”1.3.6.1.4.1.19376.1.4.1.9”/>

<id root=”xyz”/>

…

</observation>

</entry>

</entry>

<observation classCode="PROC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<!-- Procedure Activity Procedure template -->

...

</observation>

</entry>

</entry>

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.13"/>

<!-- Procedure Activity Observation template -->

...

</observation>

</entry>

</section>

Figure Example: Example Section example>

**###End Discrete Conformance Format - Section**

### 6.3.4 CDA Entry Content Modules

Add to section 6.3.4.E Entry Content Modules

#### 6.3.4.E <Entry Content Module Name> Entry Content Module

<Authors’ Note: Replicate section 6.3.4.E for each Entry Content Module defined in this profile. Number as 6.3.4.E**1**, 6.3.4.E**2**, etc.>

<If this entry has subsidiary/child entries, these entries are referenced in the table below. Create one row for each subsidiary/child entry.>

**### Begin Tabular Format - Entry**

Table 6.3.4.E-1 <Entry Module Name> Entry

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Template Name | | | | <Template name> | | | | | | |
| Template ID | | | | <oid> | | | | | | |
| Parent Template | | | | <Parent Template Name oid/uid [Domain - Reference]> or NA | | | | | | |
| General Description | | | | <brief textual description, one paragraph> | | | | | | |
| Class/Mood | | Code | | | | Data Type | Value | | | |
| <use one of defined Class/Mood see General Intro App E> | | <Code, code system, code meaning e.g., 18118-0, LOINC, “LV Wall Motion Segmental Findings”> | | | | <Applies only if the Class/ Mood is OBS/EVN. Enumerated in HL7 V3 Data Types R1.> | <If the Class/Mood is OBS/EVN, then this Value field is the constraint on Observation Value. Otherwise, this field should be “N/A”.> | | | |
| Opt and Card | entryRelationship | | Description | | Template ID | | | Specification Document | Vocabulary Constraint |
| <e.g., x [?..?]> |  | | Simple Observation | | oid | | | reference to document e.g., PCC-TF-3 | <reference/link to definition of constraint, often in next paragraph/ subsection e.g., CARD TF-3 6.3.3.4.9.10> |
| <e.g., C [1..\*] | COMP | | Simple Observation | | 1.3.6.1.4.1.19376.1.5.3.1.4.13 | | | PCC TF-2 | CARD TF-3 6.3.4.E.1 (Wall morphology)> |
| <e.g., O [0..1] | COMP | | Simple Observation | | 1.3.6.1.4.1.19376.1.5.3.1.4.13 | | | PCC TF-2 | CARD TF-3 6.3.4.E.2 (Viability)> |
| <e.g., O [0..1] | COMP | | observationMedia Entry | | 1.3.6.1.4.1.19376.1.4.1.4.7 | | | CARD TF-3 6.3.1.6> |  |

##### 6.3.4.E.1 Simple Observation (wall motion) Vocabulary Constraints

<Describe constraints, refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Can be in a tabular format or textual description.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The conditional entries specified in this table SHALL be present based on the exam type as specified in the CDA Header in the documentationOf / serviceEvent / code element.>

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Opt and Card | Condition | observation/code | Data Type | Unit of Measure | Value Set/  Concept Domain |
| <e.g., C [1..\*] | <Identifies the predicate and the if the predicate evaluates as true, then indicate whether mandatory, required or optional  e.g., Required if “exam type” is “LVG” (left ventriculogram)>  R: LVG | 60797005, SNOMED CT, “Cardiac Wall Motion”  <”+” = May be post-coordinated with priorityCode, methodCode, targetSiteCode . See HL7 V3. Include a value directly or include a link to a value set, if applicable.>  e.g., + targetSiteCode from 1.2.840.10008.6.1.219 DICOM CID 3718 Myocardial Wall Segments in Projection | CD | n/a unless the Data Type is PQ or IVL<PQ> | <include link to value set, e.g., 1.3.6.1.4.1.19376.1.4.1.5.20 Wall motion  OR, include value directly as e.g.,  <The Observation Value may also have a post-coordinated interpretation such as:>  +interpretationCode  +negationInd > |
| <e.g., C [1..\*] | R: SPECT, TTE, TEE, CMR  O:CCTA | 60797005, SNOMED CT, “Cardiac Wall Motion”  + targetSiteCode from 1.2.840.10008.6.1.218 DICOM CID 3717 Myocardial Wall Segments | CD | n/a | UV\_WallMotion > |

##### 6.3.4.E.2 Simple Observation (wall morphology) Constraints

<Describe constraints; refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Can be in a tabular format or textual description.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The conditional entries specified in this table SHALL be present based on the exam type as specified in the CDA Header in the documentationOf / serviceEvent / code element.>

| Opt and Card | Condition | observation/code | Data Type | Unit of Measure | Value Set/  Concept Domain |
| --- | --- | --- | --- | --- | --- |
| <e.g., C [1..\*] | R: Cath with LVG | 72724002, SNOMED CT, “Morphology findings”  + targetSiteCode from 1.2.840.10008.6.1.219 DICOM CID 3718 Myocardial Wall Segments in Projection | CD | n/a | 1.3.6.1.4.1.19376.1.4.1.5.19 Myocardium Assessments> |
| <e.g., C [1..\*] | R: SPECT, echo, CMR  O:CCTA | 72724002, SNOMED CT, “Morphology findings”  + targetSiteCode from 1.2.840.10008.6.1.218 DICOM CID 3717 Myocardial Wall Segments | CD | n/a | UV\_MyocardiumAssessments> |

<e.g., The observation/value MAY be a null flavor.>

<e.g., morphological assessment observation MAY have a subsidiary Severity observation (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.1 [PCC TF-2]).>

**### End Tabular Format - Entry**

**### Begin Discrete Conformance Format – Entry**

<An example is provided to demonstrate the desired consistent use and format. Delete this example prior to publication for Public Comment. The statements must be numbered, begin with SHALL/SHOULD/MAY identify the cardinality using [n..n], the name of the element, and a subitem which described the value or source of the information.>

##### <e.g.,6.3.4.E Result Observation - Cardiac

[observation: templateId 1.3.6.1.4.1.19376.1.4.1.4.16 (open)]

A result observation is a clinical statement that a clinician has noted during the Cath Lab procedure. This entry is used to describe the specific procedure findings that were observed during the specific Cath Lab procedure.

The specific result observations are defined in 1.3.6.1.4.1.19376.1.4.1.5.38 Procedure Findings Constraints/ValueSet.

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7130).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7131).
3. SHALL contain exactly one [1..1] templateId (CONF:7136) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:9138).
4. SHALL contain at least one [1..\*] id (CONF:7137).
   1. The first id represents this specific globally unique result observation.
   2. The second id represents the lesion ID which should be an assigned numeric code that identifies lesions within a specific targetSiteCode.This lesion ID is used to link lesion specific data in this Result Observation – Cardiac with Procedure Activity Procedure - Cardiac.
5. SHALL contain exactly one [1..1] code (CONF:7133).
   1. SHOULD be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (Value Set: 1.3.6.1.4.1.19376.1.4.1.5.38) (CONF:7166-CRC).
6. SHOULD contain zero or one [0..1] text (CONF:7138).
   1. The text, if present, SHOULD contain zero or one [0..1] reference/@value (CONF:7139).
      1. This reference/@value SHALL begin with a '#' and SHALL point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9119).
7. SHALL contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7134).
8. SHALL contain exactly one [1..1] effectiveTime (CONF:7140).
   1. represents clinically effective time of the measurement, which may be when the measurement was performed (e.g., a BP measurement), or may be when sample was taken (and measured some time afterwards) (CONF:7141).
9. SHALL contain exactly one [1..1] value with @xsi:type="ANY" (CONF:7143).
10. SHOULD contain zero or more [0..\*] interpretationCode (CONF:7147).
11. MAY contain zero or one [0..1] methodCode (CONF:7148).
12. MAY contain zero or one [0..1] targetSiteCode (CONF:7153).
    1. The targetSiteCode, if present, SHALL contain exactly one [1..1] code where the @code SHALL be selected from ValueSet Body Site 1.3.6.1.4.1.19376.1.4.1.5.32 STATIC (CONF:CRC).
13. MAY contain zero or one [0..1] author (CONF:7149).
14. SHOULD contain zero or more [0..\*] referenceRange (CONF:7150).
    1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:7151).
       1. This observationRange SHALL NOT contain [0..0] code (CONF:7152).
15. SHOULD contain zero or one [0..1] entryRelationship (CONF:CRC-xxx) such that it
    1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:CRC-xxx).
    2. SHALL contain exactly one [1..1] @inversionInd="true" TRUE (CONF:CRC-xxx).
    3. SHALL contain exactly one [1..1] Severity Observation (2.16.840.1.113883.10.20.22.4.8) (CONF:CRC-xxx).

<observation classCode="OBS" moodCode="EVN">

<templateId root="1.3.6.1.4.1.19376.1.4.1.4.16"/>

<!-- Result Observation template -->

<id root="c6f88321-67ad-11db-bd13-0800200c9a66"/>

<!-- This second ID represents the lesion ID -->

<id root="107c2dc0-67a5-11db-bd13-0800200c9a66" extension="1"/>

<code code="233970002"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Post procedure stenosis"/>

<text><reference value="1"/></text>

<statusCode code="completed"/>

<effectiveTime value="19991114"/>

<targetSiteCode code="41879009" codeSystem="1.3.6.1.4.1.19376.1.4.1.5.32"

displayName="Distal RCA"/>

<value xsi:type="PQ" value="0" unit="%"/>

<interpretationCode code="N" codeSystem="2.16.840.1.113883.5.83"/>

</observation>

e.g., Figure 6.3.4.E-1: Result observation example >

**### End Discrete Conformance Format - Entry**

## 6.4 Section not applicable

Not applicable

<This heading is not currently used in a CDA document and remains here for section numbering integrity. Do not remove it or renumber sections following it. >

Add to Section 6.5 Value Sets

## 6.5 <Domain Acronym> Value Sets and Concept Domains

<Replicate the Value Set 6.5.x section as many times as needed for this supplement.>

<It is preferable to use tabular format. Add notes as needed. Be aware of potential national licensing issues of coding schemes.>

### 6.5.x <Value Set Name/Concept Domain Name> <oid>

<Add description or clarifications here if necessary.>

|  |  |
| --- | --- |
| Coding Scheme  Concept | <Coding Scheme Name> |
|  |  |
|  |  |
|  |  |
|  |  |

Note: <as necessary, applicable>

OR

|  |
| --- |
| <Concept Domain Name> |
|  |
|  |
|  |
|  |

<Delete the example below prior to publication for Public Comment.>

### <e.g.,6.5.1 Drug Classes Used in Cardiac Procedure 1.3.6.1.4.1.19376.1.4.1.5.15

| Coding Scheme  Concept | SNOMED CT | NDF-RT |
| --- | --- | --- |
| Calcium channel blockers | 48698004 | N0000029119 |
| Beta-blockers | 33252009 | N0000029118 |
| Nitrates | 31970009 | N0000007647 |
| Aminophylline | 55867006 | N0000146397 |

Note: As described in Section 6.1.2.4, the selection of the appropriate coding system for use may be based on local policy or national regulation.

OR

### 6.5.1 UV\_CardiacProcedureDrugClasses

This Concept Domain holds a list of Drug Classes used in Cardiac Procedures. The concepts in this domain must be bound to a value set at implementation.

|  |
| --- |
| Concept Name |
| Calcium channel blockers |
| Beta-blockers |
| Nitrates |
| Aminophylline |

>

Appendices

*<Add any applicable Volume 3 appendices below.*

*<If there are no Volume 3 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>*

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.

Volume 4 – National Extensions

Add appropriate Country section

# 4 National Extensions

4.I National Extensions for <Country Name or IHE Organization>

<A template for Volume 4 is included in this document for completeness; however, National Extensions are typically developed after a profile has been published for Trial Implementation. If you are developing a new profile for Public Comment, it is recommended that this section be marked “Not Applicable”.>

<Avoid using this section if you can, this is “only if absolutely necessary”. Differences add cost to implementation and testing and can reduce interoperability. Review carefully to determine if the national use case truly requires a difference in the profile mechanisms rather than just differences in system configuration.>

< National Extensions can add requirements above and beyond IHE, but **not** relax requirements. This would prevent Connectathon results based on national testing being recognized elsewhere. For more information, see <http://wiki.ihe.net/index.php?title=National_Extensions_Process>.>

The format of this section is not strongly specified due to the varying nature of national extensions. For an example of National Extensions, see RAD TF 4.>

4.I.1 Comment Submission

This national extension document was authored under the sponsorship and supervision of <sponsor name>, who welcome comments on this document and the IHE <country> initiative. Comments should be directed to:

<Name, organization, title, email address>

4.I.2 <Profile Name> <(Profile Acronym)>

<Add info or tables>

4.I.2.1<Profile Acronym> Value Set Binding for <Country Name or IHE Organization> Realm Concept Domains

*<This section defines the actual value sets and code systems for any coded concepts that were described by concept domains in the main profile and binds the value set to the coded concepts.>*

*<Add info or tables>*

*<Delete the example below prior to publication for Public Comment.>*

*<e.g.,*

4.I.2.1 <Profile Acronym> Value Set Binding for US Realm Concept Domains

| UV Concept Domain | US Realm Vocabulary Binding or Single Code Binding | Value Set OID |
| --- | --- | --- |
| UV\_CardiacProcedureDrugClasses | US\_CardiacProcedureDrugClasses | 1.3.6.1.4.1.19376.1.4.1.5.15 |

#### 4.I.2.1.1 US\_CardiacProcedureDrugClasses (1.3.6.1.4.1.19376.1.4.1.5.15)

|  |  |  |
| --- | --- | --- |
| Coding Scheme  Concept | SNOMED CT | NDF-RT |
| Calcium channel blockers | 48698004 | N0000029119 |
| Beta-blockers | 33252009 | N0000029118 |
| Nitrates | 31970009 | N0000007647 |
| Aminophylline | 55867006 | N0000146397 |

>

4.I.2.2<Profile Acronym> <Type of Change>

<Add info or tables>

4.I+1 National Extensions for <Country Name or IHE Organization>

<Repeat (and increment) the section above as needed for additional National Extensions>

Appendices

*<Add any applicable Volume 4 appendices below>*

*<If there are no Volume 4 appendices, enter “Not applicable”* *and delete the Appendix A and Appendix B placeholder sections.>*

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.