CDAR2\_IG\_QRDOC\_R1\_2013APR



**HL7 Implementation Guide for CDA® Release 2.0:**

**Questionnaire Response Document, Release 1**

April 2013

**HL7 DSTU Ballot**

**Sponsored by:  
Structured Documents Work Group**

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| Co-Chair: | Robert H. Dolin, MD Lantana Consulting Group [bob.dolin@lantanagroup.com](mailto:bob.dolin@lantanagroup.com) | Co-Editor: | Vinayak Kulkarni  Siemens  [vinayak.kulkarni@siemens.com](mailto:vinayak.kulkarni@siemens.com) |
| Co-Chair: | Brett Marquard  brett.marquard1@gmail.com | Co-Editor: | TBD |
| Co-Chair: | Calvin Beebe Mayo Clinic [cbeebe@mayo.edu](mailto:cbeebe@mayo.edu) | Co-Editor: | TBD |
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# Open Issues

# Introduction

## Audience

## Purpose

## Scope

## Approach

## Organization of This Guide



## Content of the Package

The following files comprise the package:

Table 1: Content of the Package

|  |  |  |
| --- | --- | --- |
| Filename | Description | Standards Applicability |
|  |  |  |
|  |  |  |

# General, Universal Realm, QuESTionnaire Response document Header Template

This template describes constraints that apply to the header for all Universal Realm documents within the scope of this implementation guide. Header constraints specific to each document type are described in the appropriate document-specific section below.

## Document Type Codes

CDA R2 states that LOINC is the preferred vocabulary for document type codes. The document type code specifies the type of document being exchanged (e.g., History and Physical). Each document template defined in the Consolidated CDA guide recommends use of a single preferred clinicalDocument/code.

CDA R2 base Questionnaire Response documen is created by patient (i.e. non-clinicians) and could be considered as a sub type of patient generate document. The most general type of Patient Authored Note is denoted by the LOINC code 51855-5.

## Universal Realm Questionnaire Response Document Header

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.29 (open)]

1. SHALL contain exactly one [1..1] realmCode **(NC:xxxxx)**.
   1. This realmCode SHOULD be selected from HL7 ValueSet BindingRealm[2.16.840.1.113883.1.11.20355] from codesystem hl7Realm [2.16.840.1.113883.5.1124] STATIC 2010-11-11 **(NC:xxxxx)**.
2. 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).
3. SHALL contain exactly one [1..1] header-level templateId (**NC:xxxxx**) such that it
   1. SHALL contain exactly one [1..1] @root=”2.16.840.1.113883.10.20.29” **(NC:xxxxx).**
4. SHALL contain exactly one [1..1] id (CONF:5363).
   1. This id SHALL be a globally unique identifier for the document (CONF:9991).
5. SHALL contain exactly one [1..1] code (CONF:5253).
   1. This code SHALL specify the Questionnaire Response document generated by patient. **(NC:xxxxx).**
   2. This code SHould come from the LOINC Document Ontology where Patient Note (51855-5) is the root of the hierarchy. CDA R2 states that LOINC is the preferred vocabulary for document type specification. The Questionnaire Response Document is a universal realm document, therefore it does not mandate use of LOINC; however, LOINC is still the preferred document code vocabulary. **(NC:xxxxx).**
6. SHALL contain exactly one [1..1] title (CONF:5254).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:5256).
8. SHALL contain exactly one [1..1] confidentialityCode, which SHALL be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 (CONF:5259).
9. SHALL contain exactly one [1..1] languageCode, which SHALL be selected from ValueSet Language 2.16.840.1.113883.1.11.11526 DYNAMIC (CONF:5372).

Table 2: Basic Confidentiality Kind Value Set

| Value Set: HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 STATIC 2010-04-21 | | |
| --- | --- | --- |
| Code System(s): | Confidentiality Code 2.16.840.1.113883.5.25 | |
| Code | Code System | Print Name |
| N | Confidentiality Code | Normal |
| R | Confidentiality Code | Restricted |
| V | Confidentiality Code | Very Restricted |

Table 3: Language Value Set (excerpt)

| Value Set: Language 2.16.840.1.113883.1.11.11526 DYNAMIC | | |
| --- | --- | --- |
| Code System(s): | Internet Society Language 2.16.840.1.113883.1.11.11526 | |
| Description: | A value set of codes defined by Internet RFC 4646 (replacing RFC 3066). Please see ISO 639 language code set maintained by Library of Congress for enumeration of language codes  <http://www.ietf.org/rfc/rfc4646.txt> | |
| Code | Code System | Print Name |
| En | Internet Society Language | English |
| Fr | Internet Society Language | French |
| Ar | Internet Society Language | Arabic |
| en-US | Internet Society Language | English, US |
| es-US | Internet Society Language | Spanish, US |
| … |  |  |

Figure 1: UV Realm header example

<realmCode code="UV"/>

<typeId root="2.16.840.1.113883.1.3" extension="POCD\_HD000040"/>

<!-- US General PAN Header Template -->

<templateId root="**2.16.840.1.113883.10.20.29**"/>

<!-- \*\*\* Note: The next templateId, code and title will differ depending on what type of document is being sent. \*\*\* -->

<!-- conforms to the document specific requirements -->

<templateId root="2.16.840.1.113883.10.20.29.1.1"/>

<id extension="999" root="2.16.840.1.113883.19"/>

<!— code should be LOINC, but could come from a different code system -->

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC" code="**51855-5**"

displayName="Questionnaire Response Document"/>

<title>Patient Questionnaire Response Document</title>

<effectiveTime value="20121126145000-0500"/>

<confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>

<languageCode code="en-US"/>

Figure 2: effectiveTime with time zone example

<!-- the syntax is "YYYYMMDDHHMMSS.UUUU[+|-ZZzz]" where digits can be omitted

the right side to express less precision. -->

<effectiveTime value=”20121126145000-0500”/>

<!-- November 26, 2012, 2:50PM, 5 hours behind UTC -->

### RecordTarget

The recordTarget records the patient whose health information (in the context of this IG, patient responses to a set of questions asked through the Form Defintion Document) is described by the clinical document; each recordTarget must contain at least one patientRole element.

1. SHALL contain at least one [1..1] recordTarget (**NC:xxxxx**).
   1. Such recordTargets SHALL contain exactly one [1..1] patientRole (CONF:5267).
      1. This patientRole SHALL contain at least one [1..\*] id (**NC:xxxxx**).

#### Patient

* + 1. This patientRole SHOULD contain zero or one [0..1] patient (CONF:5283).
       1. This patient SHALL contain exactly one [1..1] name (CONF:5284).
       2. This patient SHALL contain exactly one [1..1] administrativeGenderCode. (**NC:xxxxx**).

#### RecordTarget Example

Figure 3: UV Realm recordTarget example

<recordTarget>

<patientRole>

<!-- Internal id using HL7 example OID. -->

<id extension="999.1" root="2.16.840.1.113883.19"/>

<!-- Fake Social Security Number using the actual SSN OID. -->

<id extension="444-33-3333" root="2.16.840.1.113883.4.1"/>

<!-- Identifier based on the person's Direct Address which is a secure

and trusted mechanism for identifying

a person discretely. The toot of the id is the OID of the HISP

Assigning Authority for the Direct Address-->

<id extension="adameveryman@direct.sampleHISP.com"

root="2.16.123.123.12345.1234"/>

<patient>

<name use="L">

<!-- L is "Legal" from HL7 EntityNameUse 2.16.840.1.113883.5.45 -->

<prefix>Mr.</prefix>

<given>Adam</given>

<given>A.</given>

<given qualifier="CL">Ace</given>

<family>Everyman</family>

</name>

<administrativeGenderCode code="M"

codeSystem="2.16.840.1.113883.5.1" displayName="Male"/>

</patient>

</patientRole>

</recordTarget>

### Author

The author element represents the creator of the clinical document. In the context of this IG, it is the Questionnaire Response Document. The author may be a device, or a person.

1. SHALL contain at least one [1..\*] author (CONF:5444) .
   1. Such authors SHALL contain exactly one [1..1] time (CONF:5445).
   2. Such authors SHALL contain exactly one [1..1] assignedAuthor (CONF:5448).
      1. This assignedAuthor SHALL contain exactly one [1..1] id (CONF:5449) such that it
         1. The id SHOULD utilize the combined @root and @extension attributes to record the person’s or the device’s identity in a secure, trusted, and unique way. **(NC:xxxxx)**.
      2. When the author is a person,this assignedAuthor SHALL contain one [1..1] code (**NC:xxxxx**).
         1. The code, SHaLL contain exactly one [1..1] @code, which SHOULD be selected from the PersonalRelationshipRoleType value set PLUS ResponsibleParty PLUS (**NC:xxxxx**)
      3. There SHALL be exactly one assignedAuthor/assignedPerson and exactly one assignedAuthor/assignedAuthoringDevice (**NC:xxxxx**).
      4. This assignedAuthor SHALL contain zero or one [0..1] assignedPerson (CONF:5430).
         1. The assignedPerson, if present, SHALL contain at least one [1..\*] name (**NC:xxxxx**).
      5. This assignedAuthor SHALL contain at least one [1..1] assignedAuthoringDevice (**NC:xxxxx**).
         1. The assignedAuthoringDevice, if present, SHALL contain exactly one [1..1] manufacturerModelName (CONF:16784).
         2. The assignedAuthoringDevice, if present, SHALL contain exactly one [1..1] softwareName (**NC:xxxxx**).

Figure 4: Person author example

<author>

<time value="20121126145000-0500"/>

<assignedAuthor>

<!-- Internal id using HL7 example OID. -->

<id extension="999.1" root="2.16.840.1.113883.19"/>

<!-- The PAN IG includes conformance constraints on the code element.

This author/assignedAuthor/code/@code must be a code from one of

two value sets:

PersonalRelationshipRoleType or ResponsibleParty. Both of these

value sets include codes from the HL7 RoleCode Code System.

-->

<code code="SELF" displayName="Self"

codeSystem="2.16.840.1.113883.5.111"

codeSystemName="HL7 Role code"/>

<assignedPerson>

<name>

<given>Adam</given>

<family>Everyman</family>

</name>

</assignedPerson>

</assignedAuthor>

</author>

Figure 5: Device author example

<author>

<time value="20121126145000-0500"/>

<assignedAuthor>

<id extension="777.11" root="2.16.840.1.113883.19"/>

<addr nullFlavor="NA"/>

<telecom nullFlavor="NA"/>

<assignedAuthoringDevice>

<manufacturerModelName>ACME PHR</manufacturerModelName>

<softwareName>MyPHR v1.0</softwareName>

</assignedAuthoringDevice>

<representedOrganization>

<id extension="999" root="1.2.3.4.5.6.7.8.9.12345"/>

<name>ACME PHR Solutions,Inc.</name>

<telecom use="WP" value="tel:123-123-12345"/>

<addr>

<streetAddressLine>4 Future Way</streetAddressLine>

<city>Provenance</city>

<state>RI</state>

<postalCode>02919</postalCode>

</addr>

</representedOrganization>

</assignedAuthor>

</author>

### Custodian

The custodian element represents the organization that is in charge of maintaining the document (e.g. disease management organization (DMO) in Continua eco system\_. The custodian is the steward that is entrusted with the care of the document. Every CDA document has exactly one custodian.

1. SHALL contain exactly one [1..1] custodian (CONF:5519).
   1. This custodian SHALL contain exactly one [1..1] assignedCustodian (CONF:5520).
      1. This assignedCustodian SHALL contain exactly one [1..1] representedCustodianOrganization which may be the person when the document is not maintained by an organization. (**NC:xxxxx**).
         1. This representedCustodianOrganization SHALL contain at least one [1..\*] id (**NC:xxxxx**).
         2. This representedCustodianOrganization SHOULD contain exactly one [1..1] name (**NC:xxxxx**).

Figure 6: Custodian examples

<custodian>

<assignedCustodian>

<representedCustodianOrganization>

<!-- Internal id -->

<id extension="999.3" root="2.16.840.1.113883.19"/>

<name>MyPersonalHealthRecord.Com</name>

</representedCustodianOrganization>

</assignedCustodian>

</custodian>

<custodian>

<assignedCustodian>

<representedCustodianOrganization>

<!-- This example assumes that Ned is using a Desktop PHR application.

There is no larger system, just the application that Ned runs on

his desktop.

-->

<!-- Internal id -->

<id extension="999.8" root="2.16.840.1.113883.19"/>

<name>Ned Nuclear</name>

</representedCustodianOrganization>

</assignedCustodian>

</custodian>

### InFulfillmentOf

The inFulfillmentOf element represents orders that are fulfilled by this Questionnaire Response document. In the Continua eco-system, a remote DMO creates a task for the patient to fill-in the Questionnaire. Reference to such task is stored in the id field of the Questionnaire Response Document.

1. SHOULD contain zero or one [0..1] inFulfillmentOf (**NC:xxxxx**).
   1. The inFulfillmentOf, if present, SHALL contain exactly one [1..1] order (CONF:9953).
      1. This order SHALL contain at least one [1..\*] id (**NC:xxxxx**)
         1. Such ids MAY represent a scheduled appointment or service event in a practice management system (**NC:xxxxx**).

## Rendering Header Information for Human Presentation

<Place Holder>.

# Questionnaire Response Document-Level Template

<place holder for providing context information (Informative)>

## Questionnaire Response Document

[ClinicalDocument: templateId x.x.x.x.x.x.x.x.x.x(open)]

***Table 4: Questionnaire Assessment Framework Contexts***

| **Used By:** | **Contains Entries:** |
| --- | --- |
|  | Questionnaire Response Section |

Table 5: Questionnaire Response Document Constraints Overview

| Name | XPath | Card. | Verb | Data Type | CONF# | Fixed Value |
| --- | --- | --- | --- | --- | --- | --- |
|  | ClinicalDocument[templateId/@root = ' x.x.x.x.x.x.x.x.x.x] | | | | | |
|  | component | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | structuredBody | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | component | 1..\* | SHALL |  | **NC:xxxxx** |  |
|  | section | 1..1 | SHALL |  | **NC:xxxxx** |  |

1. SHALL conform to the Universal Realm Questionnaire Response Document Header template
2. SHALLcontain exactly one[1..1]component(**NC:xxxxx**).
   1. **SHALL** contain exactly one [1..1] structuredBody (**NC:xxxxx**)
      1. This structuredBody SHALL contain at least one [1..\*] component (**NC:xxxxx**).
         1. Such components SHALL contain exactly one [1..1] Questionnaire Response Section template(templateId:x.x.x.x.x.x.x.x.x.x) (**NC:xxxxx**).

# Section-Level Templates

This section contains the section-level templates used by the Questionnaire Response Document in this Implementation Guide. Section-level templates are always included in a document.

Each section-level template contains the following:

* Template metadata (e.g., templateId, etc.)
* Description
* Section code
* Section title
* Entry-level template names and Ids for referenced templates (required and optional)

## Questionnaire Response Section

[section: templateId x.x.x.x.x.x.x.x.x.x(open)]

Table 6: Generic Section Pattern Contexts

| Used By: | Contains Entries: |
| --- | --- |
| Questionnaire Response Document-Level Template (required) | Answers Organizer |

Questionnaire Response Document could be categorized into section that groups the related questions and responses to the questions. Section titles ease human-readability and navigation in the document. Section codes may help with the recipient’s interpretation of each section. Section template defined by this implementation guide requires the use of at least one structured entry, where structured entry contains the response of a patient to the question.

***Table 7: Questionnaire Response Section Constraints Overview***

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | section[templateId/@root = ' x.x.x.x.x.x.x.x.x] | | | | | |
|  | templateId | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @root | 1..1 | SHALL |  | **NC:xxxxx** | x.x.x.x.x.x.x.x.x |
|  | title | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | text | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | entry | 1..\* | SHALL |  | **NC:xxxxx** |  |
|  | @typeCode | 1..1 | SHALL |  |  | DRIV |
|  | organizer | 1..1 | SHALL |  | **NC:xxxxx** |  |

1. **SHALL** contain exactly one [1..1] **templateId** (**NC:xxxxx**) such that it
   1. **SHALL** contain exactly one [1..1] **@root**=" x.x.x.x.x.x.x.x.x" (**NC:xxxxx**).
2. **SHOULD** contain zero or one [1..1] **title** (**NC:xxxxx**).
3. **SHOULD** contain zero or one [1..1] **text** (**NC:xxxxx**).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:17477) such that it
   1. **SHALL** contain exactly one [1..1] **@typeCode**=”DRIV”
   2. **SHALL** contain exactly one [1..1] Answers Organizer template(templateId:x.x.x.x.x.x.x.x.x) (**NC:xxxxx**).

***Figure 7: Questionnaire Response Section example***

<seciton>

<templateId root="x.x.x.x.x.x.x.x.x.x"/>

<title> Questionnaire Response Document</title>

<text>

...

</text>

<entry typeCode="DRIV">

<organizer classCode="CLUSTER" moodCode="EVN">

...

</organizer>

</entry>

</seciton>

# Entry-Level Templates

<place holder for providing context information (Informative)>

## Answers Organizer

[organizer: templateId x.x.x.x.x.x.x.x.x.x.x.x.x(open)]

***Table 8: Answers Organizer Contexts***

| **Used By:** | **Contains Entries:** |
| --- | --- |
| Questionnaire Response Section Pattern | Continua Media Pattern  Continua Numeric Pattern  Continua Multiple Choice Pattern |

***Table 9: Answers Organizer Constraints Overview***

| **Name** | **XPath** | **Card.** | | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | organizer[templateId/@root = ' x.x.x.x.x.x.x.x.x.x.x.x.x'] | | | | | | |
|  | @classCode | 1..1 | SHALL | |  | **NC:xxxxx** | 2.16.840.1.113883.5.6 (HL7ActClass)=CLUSTER |
|  | @moodCode | 1..1 | SHALL | |  | **NC:xxxxx** | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL | |  | **NC:xxxxx** |  |
|  | @root | 1..1 | SHALL | |  | **NC:xxxxx** | x.x.x.x.x.x.x.x.x.x.x.x.x' |
|  | id | 0..1 | SHOULD | |  | **NC:xxxxx** |  |
|  | code | 1..1 | SHOULD | |  | **NC:xxxxx** |  |
|  | statusCode | 1..1 | SHALL | |  | **NC:xxxxx** |  |
|  | @code | 1..1 | SHALL | |  | **NC:xxxxx** | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | component | 1..\* | SHALL | |  | **NC:xxxxx** |  |
|  | observation | 1..1 | SHALL | |  | **NC:xxxxx** |  |

1. SHALL contain exactly one [1..1] @classCode (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (**NC:xxxxx**).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (**NC:xxxxx**).
3. SHALL contain exactly one [1..1] templateId (**NC:xxxxx**) such that it
   1. SHALL contain exactly one [1..1] @root=" x.x.x.x.x.x.x.x.x.x.x.x.x'" (**NC:xxxxx**).
4. SHOULD contain zero or one [0..1] id (**NC:xxxxx**).
5. SHALL contain exactly one [1..1] statusCode (**NC:xxxxx**).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (**NC:xxxxx**).
6. SHALL contain at least one [1..\*] component (**NC:xxxxx**) such that it
   1. SHALL contain exactly one [1..1] observation (templateId: **‘**x.x.x.x.x.x.x.x.x.x.x’) (**NC:xxxxx**).
   2. This component will have either of those templates….

***Figure 8: Answers Organizer***

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Answers Organizer template -->

<templateId root="x.x.x.x.x.x.x.x.x.x"/>

<code code="O1" codeSystem="CONTINUA-Organizer-OID" displayName="Questions related fitness"/>

<statusCode code="completed"/>

<!--

Conains Continua Numeric, Multiple Choice or other defined templates

-->

<component>

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

<templateID root="x.x.x.x.x.x.x.x.x.x"/>

...

</observation>

</component>

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

<templateID root="x.x.x.x.x.x.x.x.x.x"/>

...

</observation>

<component>

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

<templateID root="x.x.x.x.x.x.x.x.x.x"/>

...

</observation>

</component>

</organizer>

## Continua Media Pattern

[observationMedia: templateId x.x.x.x.x.x.x.x.x.x.x.x.x(open)]

<place holder for providing context information (Informative)>

***Table 10: Continua Media Pattern Constraints Overview***

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observationMedia[templateId/@root =' x.x.x.x.x.x.x.x.x.x.x.x.x'] | | | | | |
|  | @classCode | 1..1 | SHALL | CD | **NC:xxxxx** | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL | CD | **NC:xxxxx** | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @root | 1..1 | SHALL |  | **NC:xxxxx** | x.x.x.x.x.x.x.x.x.x.x.x.' |
|  | value | 1..1 | SHALL |  | **NC:xxxxx** |  |

1. SHALL contain exactly one [1..1] @classCode (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (**NC:xxxxx**).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (**NC:xxxxx**).
3. SHALL contain exactly one [1..1] templateId (CONF:7126) such that it
   1. SHALL contain exactly one [1..1] @root=" x.x.x.x.x.x.x.x.x.x.x.x.x'" (**NC:xxxxx**).
4. **SHALL** contain exactly one [1..1] **value** (**NC:xxxxx**)

## Continua Numeric Pattern

[observation: templateId x.x.x.x.x.x.x.x.x.x.x.x.x(open)]

<place holder for providing context information (Informative)>

***Table 11: Continua Numeric Pattern Constraints Overview***

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = 'x.x.x.x.x.x.x.x.x.x.x.x’] | | | | | |
|  | @classCode | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @root | 1..1 | SHALL |  | **NC:xxxxx** | 'x.x.x.x.x.x.x.x.x.x.x.x’ |
|  | code | 1..1 | SHALL | CE | **NC:xxxxx** |  |
|  | @code | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @codesystem | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | originalText | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | statusCode | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @code | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..1 | SHALL | INT | **NC:xxxxx** |  |
|  | entryRelationship | 0..1 | SHOULD |  | **NC:xxxxx** |  |
|  | @typeCode | 1..1 | SHALL | CD | **NC:xxxxx** | REFR |
|  | observationMedia | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | referenceRanage | 0..1 | SHOULD |  | **NC:xxxxx** |  |
|  | @typeCode | 1..1 | SHALL | CD | **NC:xxxxx** | REFV |
|  | observationRange | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | value | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @xsi:type | 1..1 | SHALL |  | **NC:xxxxx** | IVL\_INT |
|  | low | 1..1 | SHALL | INT | **NC:xxxxx** |  |
|  | high | 1..1 | SHALL | INT | **NC:xxxxx** |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (**NC:xxxxx**).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (**NC:xxxxx**).
3. **SHALL** contain exactly one [1..1] **templateId** (**NC:xxxxx**) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="'x.x.x.x.x.x.x.x.x.x.x.x’" (**NC:xxxxx**).
4. **SHALL** contain exactly one [1..1] **code** (**NC:xxxxx**).
   1. This code **SHALL** contain exactly one [1..1] @**code** (**NC:xxxxx**).
   2. This code **SHALL** contain exactly one [1..1] @**CodeSystem** (**NC:xxxxx**).
   3. This code **SHALL** contain exactly one [1..1] **@originalText** (**NC:xxxxx**)
5. **SHALL** contain exactly one [1..1] **statusCode** (**NC:xxxxx**).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (**NC:xxxxx**).
6. **SHALL** contain exactly one [1..1] **value** (**NC:xxxxx**)
7. **SHOULD** contain zero or one [0..1] **referenceRange** (**NC:xxxxx**)
   1. The referenceRange, if present, SHALL contain exactly one [1..1] @typeCode="REFV" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (**NC:xxxxx**).
   2. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (**NC:xxxxx**).
      1. SHALL contain exactly one [1..1] value (**NC:xxxxx**) such that it
         1. SHALL contain exactly one [1..1] @xsi:type=”IVL\_INT” (**NC:xxxxx**).
         2. SHALL contain exactly one [1..1] low (**NC:xxxxx**).
         3. SHALL contain exactly one [1..1] high (**NC:xxxxx**).
8. **SHOULD** contain zero or one [0..1] entryRelationship (**NC:xxxxx**)
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (**NC:xxxxx**).
   2. SHALL conform to the Continua Media Pattern template.

***Figure 9: Continua Numeric Pattern example***

<entry>

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

<templateId root=" x.x.x.x.x.x.x.x.x.x "/>

<code code="q2" codeSystem="CONTINUA-QA-OID">

<originalText>How many hour do you sleep last night?</originalText>

</code>

<value xsi:type="INT">5</value>

<referenceRange typeCode="REFV">

<observationRange>

<value xsi:type="IVL\_INT">

<low value='0'/>

<high value='24'/>

</value>

</observationRange>

</referenceRange>

<entryRelationship typeCode="REFR">

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

<templateId root="x.x.x.x.x.x.x.x.x.x"/>

<value mediaType="image/jpeg">

<reference value="smileyface.jpg or URL"/>

</value>

</observationMedia>

</entryRelationship>

</observation>

</entry>

## Continua Multiple Choice Pattern

[observation: templateId x.x.x.x.x.x.x.x.x.x.x.x.x(open)]

<place holder for providing context information (Informative)>

***Table 12: Continua Multiple Choice Pattern Constraints Overview***

| **Name** | **XPath** | **Card.** | **Verb** | **Data Type** | **CONF#** | **Fixed Value** |
| --- | --- | --- | --- | --- | --- | --- |
|  | observation[templateId/@root = 'x.x.x.x.x.x.x.x.x.x.x.x’] | | | | | |
|  | @classCode | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
|  | @moodCode | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
|  | templateId | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @root | 1..1 | SHALL |  | **NC:xxxxx** | 'x.x.x.x.x.x.x.x.x.x.x.x’ |
|  | code | 1..1 | SHALL | CE | **NC:xxxxx** |  |
|  | @code | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @codesystem | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | originalText | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | statusCode | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @code | 1..1 | SHALL |  | **NC:xxxxx** | 2.16.840.1.113883.5.14 (ActStatus) = completed |
|  | value | 1..\* | SHALL |  | **NC:xxxxx** |  |
|  | @xsi:type | 1..1 | SHALL |  | **NC:xxxxx** | CE |
|  | @code | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @codesystem | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | @displayName | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | entryRelationship | 0..1 | SHOULD |  | **NC:xxxxx** |  |
|  | @typeCode | 1..1 | SHALL | CD | **NC:xxxxx** | REFR |
|  | observationMedia | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | referenceRanage | 0..1 | SHOULD |  | **NC:xxxxx** |  |
|  | @typeCode | 1..1 | SHALL | CD | **NC:xxxxx** | REFV |
|  | observationRange | 1..1 | SHALL |  | **NC:xxxxx** |  |
|  | value | 1..1 | SHALL | Sequence (LIST) | **NC:xxxxx** |  |

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (**NC:xxxxx**).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (**NC:xxxxx**).
3. **SHALL** contain exactly one [1..1] **templateId** (**NC:xxxxx**) such that it
   1. **SHALL** contain exactly one [1..1] **@root**="'x.x.x.x.x.x.x.x.x.x.x.x’" (**NC:xxxxx**).
4. **SHALL** contain exactly one [1..1] **code** (**NC:xxxxx**).
   1. This code **SHALL** contain exactly one [1..1] @**code** (**NC:xxxxx**).
   2. This code **SHALL** contain exactly one [1..1] @**CodeSystem** (**NC:xxxxx**).
   3. This code **SHALL** contain exactly one [1..1] **@originalText** (**NC:xxxxx**)
5. **SHALL** contain exactly one [1..1] **statusCode** (**NC:xxxxx**).
   1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (**NC:xxxxx**).
6. **SHALL** contain at least one [1..\*] **value** (**NC:xxxxx**)
   1. SHALL contain exactly one [1..1] @xsi:type="CE" (**NC:xxxxx**).
   2. This code **SHALL** contain exactly one [1..1] @**code** (**NC:xxxxx**).
   3. This code **SHALL** contain exactly one [1..1] @**CodeSystem** (**NC:xxxxx**).
7. **SHOULD** contain zero or one [0..1] **referenceRange** (**NC:xxxxx**)
   1. The referenceRange, if present, SHALL contain exactly one [1..1] @typeCode="REFV" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (**NC:xxxxx**).
   2. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (**NC:xxxxx**).
      1. SHALL contain exactly one [1..1] value (**NC:xxxxx**) such that it
         1. SHALL contain exactly one [1..1] @xsi:type="LIST" (**NC:xxxxx**).
8. **SHOULD** contain zero or one [0..1] entryRelationship (**NC:xxxxx**)
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (**NC:xxxxx**).
   2. SHALL conform to the Continua Media Pattern template.

***Figure 10: Continua Multiple Choice Pattern example***

<entry>

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

<templateId root=" x.x.x.x.x.x.x.x.x.x"/>

<code code="q2" codeSystem="CONTINUA-QA-OID">

<originalText>How many hour do you sleep last night?</originalText>

</code>

<value xsi:type="CE" code="A1" codeSystem="CONTINUA-MUL\_OID”, displayName="The same as  last week"/>

<referenceRange typeCode="REFV">

<observationRange>

<value xsi:type="LIST">

<low value='0'/>

<high value='24'/>

</value>

</observationRange>

</referenceRange>

<entryRelationship typeCode="REFR">

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

<templateId root=" x.x.x.x.x.x.x.x.x.x"/>

<value mediaType="image/jpeg">

<reference value="smileyface.jpg or URL"/>

</value>

</observationMedia>

</entryRelationship>

</observation>

</entry>