(US Realm)

HL7 Implementation Guide for CDA ® Release 2: Hearing Plan of Care

HL7 Trial Implementation Ballot

Sponsored By:

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Acknowledgments

This document contains an example of healthcare standards and specifications publication generated from UML models, using the OHT Model Driven Health Tools (MDHT). Some portions of this document may not be publicly available but are included for demonstration purposes only, therefore this version of the document is to be treated as CONFIDENTIAL by the project participants.

This demonstration document contains informtion from the following sources:

Revision History

Rev	Date	By Whom	Changes
New	Jan 2015	Doug Clauder	

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Chapter 1

INTRODUCTION

Topics:

- *Overview*
- *Approach*
- *Scope*
- *Audience*
- *Organization of This Guide*
- *Use of Templates*
- *Conventions Used in This Guide*

Overview

This implementation guide is generated from UML models developed in the Open Health Tools (OHT) Model-Driven Health Tools (MDHT) project. The data specifications have been formalized into computational models expressed in UML. These models are used by automated tooling to generate this publication, plus validation tools and Java libraries for implementers.

Approach

Working with specifications generated from formal UML models provides the opportunity to work with the data from the perspective of the underlying model and electronic format and to explore many design issues thoroughly. Taking this as an initial step ensures that the data set developers and standards community can reach consensus prior to the larger commitment of time that would be required to bring the full data set into standard format.

This project supports reusability and ease of data collection through a standard data representation harmonized with work developed through Health Information Technology Expert Panel (HITEP), balloted through Health Level Seven (HL7) and/or recognized by the Health Information Technology Standards Panel (HITSP).

This implementation guide (IG) specifies a standard for electronic submission of NCRs in a Clinical Document Architecture (CDA), Release 2 format.

Scope

TODO: scope of this implementation guide.

Audience

The audience for this document includes software developers and implementers who wish to develop...

Organization of This Guide

The requirements as laid out in the body of this document are subject to change per the policy on implementation guides (see section 13.02" Draft Standard for Trial Use Documents" within the HL7 Governance and Operations Manual, *http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf*).

Templates

Templates are organized by document (see Document Templates), by section (see Section Templates), and by clinical statements (see Clinical Statement Templates). Within a section, templates are arranged hierarchically, where a more specific template is nested under the more generic template that it conforms to. See Templates by Containment for a listing of the higher level templates by containment; the appendix Templates Used in This Guide includes a table of all of the templates Organized Hierarchically.

Vocabulary and Value Sets

Vocabularies recommended in this guide are from standard vocabularies. When SNOMED codes are used, rules defined in Using SNOMED CT in HL7 Version 3 are adhered to. In many cases, these vocabularies are further constrained into value sets for use within this guide. Value set names and OIDs are summarized in the table Summary of Value Sets. Each named value set in this summary table is stored in a template database that will be maintained by CHCA.

Use of Templates

When valued in an instance, the template identifier (`templateId`) signals the imposition of a set of template-defined constraints. The value of this attribute provides a unique identifier for the templates in question.

Originator Responsibilities

An originator can apply a `templateId` to assert conformance with a particular template.

In the most general forms of CDA exchange, an originator need not apply a `templateId` for every template that an object in an instance document conforms to. This implementation guide asserts when `templateId`s are required for conformance.

Recipient Responsibilities

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only CCD documents can reject an instance without the appropriate `templateId`).

A recipient may process objects in an instance document that do not contain a `templateId` (e.g., a recipient can process entries that contain Observation acts within a Problems section, even if the entries do not have `templateId`s).

Conventions Used in This Guide

Conformance Requirements

Conformance statements are grouped and identified by the name of the template, along with the templateId and the context of the template (e.g., ClinicalDocument, section, observation), which specifies the element under constraint. If a template is a specialization of another template, its first constraint indicates the more general template. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. An example is shown below.

Template name

`[<type of template>: templateId <XXXX.XX.XXX.XXX>]`

Description of the template will be here .....

1. Conforms to <The template name> Template (templateId: XXXX<XX>XXX>YYY).
2. **SHALL** contain [1..1] @classCode = <AAA> <code display name> (CodeSystem: 123.456.789 <XXX> Class) **STATIC** (CONF:<number>).
3. .....

Figure 1: Template name and "conforms to" appearance

The conformance verb keyword at the start of a constraint (**SHALL** , **SHOULD** , **MAY**, etc.) indicates business conformance, whereas the cardinality indicator (0..1, 1..1, 1..*, etc.) specifies the allowable occurrences within an instance. Thus, " **MAY** contain 0..1" and " **SHOULD** contain 0..1" both allow for a document to omit the particular component, but the latter is a stronger recommendation that the component be included if it is known.

The following cardinality indicators may be interpreted as follows:

0..1 as zero to one present
1..1 as one and only one present
2..2 as two must be present
1..* as one or more present
0..* as zero to many present

Value set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb (**SHALL** , **SHOULD** , **MAY,** etc.) and an indication of **DYNAMIC** vs. **STATIC** binding. The use of **SHALL** requires that the component be valued with a member from the cited value set; however, in every case any HL7 "null" value such as other (OTH) or unknown (UNK) may be used.

Each constraint is uniquely identified (e.g., "CONF:605") by an identifier placed at or near the end of the constraint. These identifiers are not sequential as they are based on the order of creation of the constraint.

1. **SHALL** contain [1..1] component/structuredBody (CONF:4082).
    a. This component/structuredBody **SHOULD** contain [0..1] component (CONF:4130) such that it
        a. **SHALL** contain [1..1] Reporting Parameters section (templateId:2.16.840.1.113883.10.20.17.2.1) (CONF:4131).
    b. This component/structuredBody **SHALL** contain [1..1] component (CONF:4132) such that it
        a. **SHALL** contain [1..1] Patient data section - NCR (templateId:2.16.840.1.113883.10.20.17.2.5) (CONF:4133).

Figure 2: Template-based conformance statements example

CCD templates are included within this implementation guide for ease of reference. CCD templates contained within this implementation guide are formatted WITHOUT typical **KEYWORD** and **XML** element styles. A WIKI site is available if you would like to make a comment to be considered for the next release of CCD: *http://wiki.hl7.org/index.php?title=CCD_Suggested_Enhancements* The user name and password are: wiki/wikiwiki. You will need to create an account to edit the page and add your suggestion.

1. The value for "Observation / @moodCode" in a problem observation SHALL be "EVN" 2.16.840.1.113883.5.1001 ActMood STATIC. (CONF: 814).
2. A problem observation SHALL include exactly one Observation / statusCode. (CONF: 815).
3. The value for "Observation / statusCode" in a problem observation SHALL be "completed" 2.16.840.1.113883.5.14 ActStatus STATIC. (CONF: 816).
4. A problem observation SHOULD contain exactly one Observation / effectiveTime, to indicate the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition). (CONF: 817).

Figure 3: CCD conformance statements example

Keywords

The keywords SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, and NEED NOT in this document are to be interpreted as described in the *HL7 Version 3 Publishing Facilitator's Guide*:

- **SHALL**: an absolute requirement
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: valid reasons to include or ignore a particular item, but must be understood and carefully weighed
- **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

XML Examples

XML samples appear in various figures in this document in a fixed-width font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (…) as shown in the example below.

```
<ClinicalDocument xmlns='urn:h17-org:v3'>
  ...
</ClinicalDocument>
```

Figure 4: ClinicalDocument example

XPath expressions are used in the narrative and conformance requirements to identify elements because they are familiar to many XML implementers.

Chapter 2

DOCUMENT TEMPLATES

Topics:

- *Hearing Plan Of Care Document*
- *Hearing Plan Of Care Header*

This section contains the document level constraints for CDA documents that are compliant with this implementation guide.

Hearing Plan Of Care Document

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.1`]

Template Design Relationships
This template is an adaptation of the IHE UV Realm HPoC Document template. It references section templates which have been adapted for the US Realm. These adapted section templates include entry templates which have been adapted for the US Realm. Machine readable entries associated with US Realm templates have been modified to use vocabulary constraints established for the Hearing Plan of Care in the US Realm.

Template Purpose
This document records information for the hearing plan of care for a newborn. It includes hearing plan of care instructions and planned care activities. It includes the results of the hearing screening provided prior to discharge as well as information about hearing risk indicators which may be available. It includes the newborn's problems list, highlighting the concerns which are likely to be relevant for a hearing plan of care. It also includes treatment procedures performed on the newborn during the birth encounter, highlighting the procedures which are likely to be relevant for a hearing plan of care.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.1"
2. **SHALL** conform to *Hearing Plan Of Care Header* template (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.2.1`)
3. **SHALL** contain exactly one [1..1] **`realmCode/@code`**="`US`"
4. **SHALL** contain exactly one [1..1] **`typeId`**
   a. typeId **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.1.3"
   b. typeId **SHALL** contain exactly one [1..1] @extension="POCD_HD000040"
5. **SHALL** contain exactly one [1..1] **`id`**
   a. id **SHALL** be a globally unique identifier for the document
6. **SHALL** contain exactly one [1..1] **`code/@code`**="`34817-7`" *Hearing Screening Evaluation and Management Note* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
7. **SHALL** contain exactly one [1..1] **`component`**
   a. Contains exactly one [1..1] *Hearing Plan Of Care Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.1`)
8. **SHALL** contain exactly one [1..1] **`title`** and **MAY** equal "Hearing Screening Evaluation and Management Note"
9. **SHALL** contain exactly one [1..1] **`effectiveTime`**
   a. effectiveTime **SHALL** conform to US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4)
10. **SHALL** contain exactly one [1..1] **`confidentialityCode`**, which **SHALL** be selected from ValueSet `HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926` **STATIC**
11. **SHALL** contain exactly one [1..1] **`languageCode`**, which **SHALL** be selected from ValueSet `Language 2.16.840.1.113883.1.11.11526` **DYNAMIC**
12. **SHALL** contain exactly one [1..1] **`component`**
    a. Contains exactly one [1..1] *Hearing Screening Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.2`)
13. **MAY** contain zero or one [0..1] **`component`**
    a. Contains exactly one [1..1] *Risk Indicators For Hearing Loss Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.3`)
14. **SHOULD** contain zero or one [0..1] **`component`**

   a. Contains exactly one [1..1] *Problems Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.4`)

15. **SHOULD** contain zero or one [0..1] **`component`**

   a. Contains exactly one [1..1] *Procedure Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.6`)

16. **MAY** contain zero or one [0..1] **`setId`**

   a. Both setId and versionNumber **SHALL** be present or both **SHALL** be absent.

17. **MAY** contain zero or one [0..1] **`versionNumber`**

   a. Both setId and versionNumber **SHALL** be present or both **SHALL** be absent.

Hearing Plan Of Care Document example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <realmCode code="US"/>
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.1"/>
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.2.1"/>
  <id root="MDHT" extension="175002991"/>
  <code code="34817-7" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hearing Screening Evaluation and
 Management Note"/>
  <title>Hearing Screening Evaluation and Management Note</title>
  <effectiveTime/>
  <confidentialityCode codeSystem="2.16.840.1.113883.5.25"
 codeSystemName="ConfidentialityCode"/>
  <setId root="MDHT" extension="a1dc43cf-f993-4398-8898-90c70e4a30a8"/>
  <versionNumber value="1"/>
  <recordTarget>
    <realmCode code="Code forrealmCode"/>
    <typeId root="2.16.840.1.113883.1.3"/>
    <patientRole/>
  </recordTarget>
  <author>
    <realmCode code="Code forrealmCode"/>
    <typeId root="2.16.840.1.113883.1.3"/>
    <time/>
    <assignedAuthor/>
  </author>
  <custodian/>
  <component>
    <structuredBody>
      <component>
        <section>
          <realmCode code="Code forrealmCode"/>
          <typeId root="2.16.840.1.113883.1.3"/>
          <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.1"/>
          <id root="MDHT" extension="1887665624"/>
          <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Plan of Care for Hearing"/>
          <title>TEXT FOR TITLE</title>
          <entry>
            <act/>
          </entry>
          <entry>
            <encounter/>
          </entry>
          <entry>
```

```
            <observation/>
          </entry>
          <entry>
            <procedure/>
          </entry>
          <entry>
            <substanceAdministration classCode="SBADM"/>
          </entry>
          <entry>
            <supply classCode="SPLY"/>
          </entry>
          <entry>
            <act/>
          </entry>
        </section>
      </component>
      <component>
        <section>
          <realmCode code="Code forrealmCode"/>
          <typeId root="2.16.840.1.113883.1.3"/>
          <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.2"/>
          <templateId root="2.16.840.1.113883.10.20.22.2.3"/>
          <templateId root="2.16.840.1.113883.10.20.22.2.3.1"/>
          <id root="MDHT" extension="1751429810"/>
          <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Relevant diagnostic tests and/or
laboratory data"/>
          <title>TEXT FOR TITLE</title>
          <entry>
            <organizer/>
          </entry>
        </section>
      </component>
      <component>
        <section>
          <realmCode code="Code forrealmCode"/>
          <typeId root="2.16.840.1.113883.1.3"/>
          <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.3"/>
          <id root="MDHT" extension="1516241671"/>
          <code code="58232-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Hearing Loss Risk Indicators"/>
          <title>TEXT FOR TITLE</title>
          <entry>
            <observation/>
          </entry>
        </section>
      </component>
      <component>
        <section>
          <realmCode code="Code forrealmCode"/>
          <typeId root="2.16.840.1.113883.1.3"/>
          <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.4"/>
          <id root="MDHT" extension="1792006410"/>
          <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Problem List"/>
          <title>TEXT FOR TITLE</title>
          <entry>
            <act/>
          </entry>
          <component>
            <section/>
          </component>
        </section>
      </component>
```

```
      <component>
        <section>
          <realmCode code="Code forrealmCode"/>
          <typeId root="2.16.840.1.113883.1.3"/>
          <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.6"/>
          <id root="MDHT" extension="1675661859"/>
          <code code="47519-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
          <title>TEXT FOR TITLE</title>
          <entry>
            <procedure/>
          </entry>
          <entry>
            <act/>
          </entry>
        </section>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```

Hearing Plan Of Care Header

[ClinicalDocument: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.2.1`]

Known Subclasses: *Hearing Plan Of Care Document*

Template Design Relationships
This template is an adaptation of the header template adopted by IHE for use in the UV Realm. Machine readable entries associated with US Realm templates have been modified to use vocabulary constraints established for the Hearing Plan of Care in the US Realm.

This template design has been adapted based on the design for the HL7 Consolidated CDA R1.1 US Realm Header template.

Template Purpose
This template constrains only the recordTarget, author, custodian, documentationOf/serviceEvent and componentOf/encompassingEncounter elements of the header. It adds constraints for the recordTarget.guardian role and the author (when it is a system). It also adds vocabulary constraints for the serviceEvent to encode the service of creating a hearing plan of care and encompassingEncounter to encode the type of encounter.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.2.1"
2. **SHALL** contain exactly one [1..1] **`recordTarget`**
   a. This recordTarget **SHALL** contain exactly one [1..1] **`patientRole`**
      a. This patientRole **SHALL** contain at least one [1..*] **`addr`**
         a. The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2)
      b. This patientRole **SHALL** contain at least one [1..*] **`id`**
      c. This patientRole **SHALL** contain at least one [1..*] **`telecom`**
         a. Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC.
      d. This patientRole **SHALL** contain exactly one [1..1] **`patient`**

- **a.** This patient **SHALL** contain exactly one [1..1] **`administrativeGenderCode`**, which **SHALL** be selected from ValueSet `Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1` **DYNAMIC**
- **b.** This patient **SHALL** contain exactly one [1..1] **`birthTime`**
  - **a.** birthTime **SHALL** be precise to year.
  - **b.** birthTime **SHOULD** be precise to day.
- **c.** This patient **MAY** contain zero or one [0..1] **`ethnicGroupCode`**, which **SHALL** be selected from ValueSet `Ethnicity Value Set 2.16.840.1.114222.4.11.837` **DYNAMIC**
- **d.** This patient **SHOULD** contain zero or one [0..1] **`maritalStatusCode`**, which **SHALL** be selected from ValueSet `Marital Status 2.16.840.1.113883.1.11.12212` **STATIC** 1
- **e.** This patient **SHALL** contain exactly one [1..1] **`name`**
  - **a.** The content of name **SHALL** be a conformant US Realm Patient Name (PTN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1)
- **f.** This patient **MAY** contain zero or one [0..1] **`raceCode`**, which **SHALL** be selected from ValueSet `Race Value Set 2.16.840.1.113883.1.11.14914` **DYNAMIC**
- **g.** This patient **MAY** contain zero or one [0..1] **`religiousAffiliationCode`**, which **SHALL** be selected from ValueSet `Religious Affiliation 2.16.840.1.113883.1.11.19185` **STATIC** 1
- **h.** This patient **MAY** contain zero or one [0..1] **`birthplace`**
  - **a.** This birthplace **SHALL** contain exactly one [1..1] **`place`**
    - **a.** This place **SHALL** contain exactly one [1..1] **`addr`**
      - **a.** This addr **SHOULD** contain zero or one [0..1] country, which **SHALL** be selected from ValueSet CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC
      - **b.** This addr **MAY** contain zero or one [0..1] postalCode, which **SHALL** be selected from ValueSet PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC
      - **c.** If country is US, this addr **SHALL** contain exactly one [1..1] state, which **SHALL** be selected from ValueSet 2.16.840.1.113883.3.88.12.80.1 StateValueSet DYNAMIC
- **i.** This patient **SHOULD** contain at least one [1..*] **`guardian`**
  - **a.** Such guardians **SHOULD** contain zero or more [0..*] **`addr`**
    - **a.** The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2)
  - **b.** Such guardians **SHOULD** contain zero or one [0..1] **`code`**, which **SHALL** be selected from ValueSet `PersonalAndLegalRelationshipRoleType 2.16.840.1.113883.11.20.12.1` **DYNAMIC**
  - **c.** Such guardians **SHOULD** contain zero or more [0..*] **`telecom`**
    - **a.** The telecom, if present **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC.
  - **d.** Such guardians Contains exactly one [1..1] **`guardianPerson`**
    - **a.** This guardianPerson **SHALL** contain at least one [1..*] **`name`**
      - **a.** The content of name **SHALL** be a conformant US Realm Patient Name (PTN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1)
- **j.** This patient **SHOULD** contain zero or more [0..*] **`languageCommunication`**
  - **a.** Such languageCommunications **SHALL** contain exactly one [1..1] **`languageCode`**, which **SHALL** be selected from ValueSet `Language 2.16.840.1.113883.1.11.11526` **DYNAMIC**
  - **b.** Such languageCommunications **MAY** contain zero or one [0..1] **`modeCode`**, which **SHALL** be selected from ValueSet `LanguageAbilityMode 2.16.840.1.113883.1.11.12249` **STATIC** 1

- **c.** Such languageCommunications **MAY** contain zero or one [0..1] **preferenceInd**
- **d.** Such languageCommunications **SHOULD** contain zero or one [0..1] **proficiencyLevelCode**, which **SHALL** be selected from ValueSet `LanguageAbilityProficiency 2.16.840.1.113883.1.11.12199` **STATIC**

3. **SHALL** contain at least one [1..*] **author**
   - **a.** Such authors **SHALL** contain exactly one [1..1] **time**
     - **a.** The content **SHALL** be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4)
   - **b.** Such authors **SHALL** contain exactly one [1..1] **assignedAuthor**
     - **a.** This assignedAuthor **SHALL** contain at least one [1..*] **addr**
       - **a.** The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2)
     - **b.** This assignedAuthor **SHOULD** contain zero or one [0..1] **code**, which **SHALL** be selected from ValueSet `Healthcare Provider Taxonomy (HIPAA) 2.16.840.1.114222.4.11.1066` **STATIC** 1
     - **c.** This assignedAuthor **SHALL** contain exactly one [1..1] **id**
       - **a.** id **SHALL** contain exactly one [1..1] @root
       - **b.** If this assignedAuthor is an assignedPerson the assignedAuthor id **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.4.6" National Provider Identifier
     - **d.** This assignedAuthor **SHALL** contain at least one [1..*] **telecom**
       - **a.** Such telecoms **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC.
     - **e.** This assignedAuthor **SHOULD** contain zero or one [0..1] **assignedAuthoringDevice**
       - **a.** This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **manufacturerModelName**
       - **b.** This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **softwareName**
     - **f.** This assignedAuthor **SHOULD** contain zero or one [0..1] **assignedPerson**
       - **a.** This assignedPerson **SHALL** contain at least one [1..*] **name**
         - **a.** The content of name **SHALL** be a conformant US Realm Patient Name (PTN.US.FIELDED) (2.16.840.1.113883.10.20.22.5.1)
     - **a.** There **SHALL** be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice, or exactly one of each.
4. **SHALL** contain exactly one [1..1] **custodian**
   - **a.** This custodian **SHALL** contain exactly one [1..1] **assignedCustodian**
     - **a.** This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization**
       - **a.** This representedCustodianOrganization **SHALL** contain exactly one [1..1] **addr**
         - **a.** The content of addr **SHALL** be a conformant US Realm Address (AD.US.FIELDED) (2.16.840.1.113883.10.20.22.5.2)
       - **b.** This representedCustodianOrganization **SHALL** contain at least one [1..*] **id**
         - **a.** Such ids **SHOULD** contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier.
       - **c.** This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name**
       - **d.** This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom**
         - **a.** This telecom **SHOULD** contain zero or one [0..1] @use, which **SHALL** be selected from ValueSet Telecom Use (US Realm Header) 2.16.840.1.113883.11.20.9.20 DYNAMIC
5. **MAY** contain zero or one [0..1] **componentOf**
   - **a.** This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter**

a. This encompassingEncounter **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCEncounterType* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.1 **STATIC** 1

Implementer Guidance:
The code element of the encompassingEncounter records the type of encounter. The vocabulary binding in this template constrains the set of codes used to represent a birth encounter. This value set may be created from concepts in the ICD code system for the US Realm template.

b. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime**

c. This encompassingEncounter **SHALL** contain exactly one [1..1] **id**

d. This encompassingEncounter **SHALL** contain exactly one [1..1] **location**

a. This location **SHALL** contain exactly one [1..1] **healthCareFacility**

a. This healthCareFacility **SHALL** contain exactly one [1..1] **location**, where its type is CDA Place

a. Contains exactly one [1..1] CDA Place

b. This healthCareFacility **SHALL** contain exactly one [1..1] **serviceProviderOrganization**, where its type is CDA Organization

a. Contains exactly one [1..1] CDA Organization

6. **MAY** contain zero or one [0..1] **documentationOf**

Implementer Guidance:
One of the documentationOf elements should record the service event of creating the Hearing Plan of Care. Additionally, other documentationOf elements optionally can record the derived screening outcome for each ear.

When the Hearing Plan of Care is developed by a system, Implementers will need to determine who should be listed as the performer of the service event associated with creation of the hearing plan of care. This may be someone who is responsible for reviewing the generated plan before it is completed. This implementation detail is out of scope for this profile.

The performer participant represents clinicians who actually and principally carry out the serviceEvent. In a transfer of care this represents the healthcare providers involved in the current or pertinent historical care of the patient. Preferably, the patient's key healthcare care team members would be listed, particularly their primary physician and any active consulting physicians, therapists, and counselors

a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent**

a. This serviceEvent **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCServiceEvent* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.2 **STATIC** 1

b. This serviceEvent **SHALL** contain exactly one [1..1] **effectiveTime**

a. This effectiveTime **SHALL** contain exactly one [1..1] low

c. This serviceEvent **SHOULD** contain zero or more [0..*] **performer**

a. Such performers **SHALL** contain exactly one [1..1] **functionCode**, which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.88 ParticipationFunction)

b. Such performers **SHALL** contain exactly one [1..1] **@typeCode**, which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType)

c. Such performers **SHALL** contain exactly one [1..1] **assignedEntity**

a. This assignedEntity **SHOULD** contain zero or one [0..1] **code**, which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.101 NUCC Health Care Provider Taxonomy)

b. This assignedEntity **SHALL** contain at least one [1..*] **id**

a. Such ids **SHOULD** contain zero or one [0..1] @root="2.16.840.1.113883.4.6" National Provider Identifier.

Hearing Plan Of Care Header example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.2.1"/>
  <id root="MDHT" extension="363907016"/>
  <code code="2084956965"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="1730447884"/>
  <recordTarget>
    <patientRole>
      <id root="MDHT" extension="665468374"/>
      <addr/>
      <telecom/>
      <patient>
        <administrativeGenderCode codeSystem="2.16.840.1.113883.5.1"
 codeSystemName="AdministrativeGenderCode"/>
        <maritalStatusCode codeSystem="2.16.840.1.113883.5.2"
 codeSystemName="MaritalStatus"/>
        <religiousAffiliationCode codeSystem="2.16.840.1.113883.5.1076"
 codeSystemName="ReligiousAffiliation"/>
        <raceCode codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race
 and Ethnicity - CDC"/>
        <ethnicGroupCode codeSystem="2.16.840.1.113883.6.238"
 codeSystemName="Race and Ethnicity - CDC"/>
      </patient>
    </patientRole>
  </recordTarget>
  <author>
    <time/>
    <assignedAuthor>
      <id root="MDHT" extension="1380612188"/>
      <code codeSystem="2.16.840.1.113883.5.53" codeSystemName="Healthcare
 Provider Taxonomy (HIPAA)"/>
      <addr/>
      <telecom/>
      <assignedPerson/>
      <assignedAuthoringDevice/>
    </assignedAuthor>
  </author>
  <custodian>
    <assignedCustodian>
      <representedCustodianOrganization/>
    </assignedCustodian>
  </custodian>
  <documentationOf>
    <serviceEvent>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <performer>
        <functionCode codeSystem="2.16.840.1.113883.5.88"
 codeSystemName="ParticipationFunction"/>
      </performer>
    </serviceEvent>
  </documentationOf>
  <componentOf>
    <encompassingEncounter>
```

```
      <id root="MDHT" extension="1131760425"/>
      <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <location/>
    </encompassingEncounter>
  </componentOf>
  <component/>
</ClinicalDocument>
```

Chapter 3

SECTION TEMPLATES

Topics:

- *Hearing Plan Of Care Problems Sub Section*
- *Hearing Plan Of Care Relevant Procedures Sub Section*
- *Hearing Plan Of Care Section*
- *Hearing Screening Section*
- *Problems Section*
- *Procedure Section*
- *Risk Indicators For Hearing Loss Section*

Hearing Plan Of Care Problems Sub Section

[Section: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.5`]

Template Design Relationships
This template is an adaptation of the IHE US Realm Problems section template. The section.code element is constrained to a LOINC code that is a specialization of concept established for the Problem List in the LOINC ontology. The entry components use a more tightly constrained. They are limited to only those concerns including a problem observation that comes from a set of problems defined to be relevant to hearing screening. The entry is only an id pointer to concerns within the problem list which match the defined inclusion criteria.

Template Purpose
This sub-section gathers information within the Problem section for certain clinical problems which are identified as relevant to hearing care planning. Current and historical problems are identified as "pertinent" through the use of a value set established to identify problem observations considered relevant for hearing care planning. Concerns from the Problem section which include a problem observation that matches one of the concepts in the established value set are gathered within this specialized sub-section in order to be readily available for more efficient review or processing when the hearing plan of care is accessed.

Note: An HPoC Problem Concern does not repeat the full content of a Problem Concern, it only "points to" the Problem Concern us the associated id.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.5"
2. **SHALL** contain exactly one [1..1] **`code/@code`**="`11450-4-HPOC`" *HPOC Problem List* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
3. **SHALL** contain exactly one [1..1] **`text`**
4. **SHALL** contain exactly one [1..1] **`title`**
5. If section/@nullFlavor is not present, **SHALL** contain at least one [1..*] **`entry`**
   a. Such entrys **SHALL** contain exactly one [1..1] **`act`**, where its type is *Hearing Plan Of Care Problem Concern*
      a. Contains exactly one [1..1] *Hearing Plan Of Care Problem Concern* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.17`)

Hearing Plan Of Care Problems Sub Section example

```
<section xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.5"/>
  <id root="MDHT" extension="2048774225"/>
  <code code="11450-4-HPOC" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HPOC Problem List"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <act>
      <id root="MDHT" extension="104663420"/>
      <code code="1698055353"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </act>
  </entry>
</section>
```

Hearing Plan Of Care Relevant Procedures Sub Section

[Section: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.7]

Template Design Relationships
This template is an adaptation of the IHE US Procedures section template. The entry components use a more tightly constrained design. They are limited to only those treatment procedures or treatment acts that come from a value set defined to indicate the type of procedures or acts that are relevant to hearing screening. The entry is only an id pointer to the procedures or acts, from the list of procedures, which match the defined inclusion criteria.

Template Purpose
This sub-section gathers information within the Procedures section for certain clinical procedures which are identified as relevant to hearing care planning. Procedures are identified as "pertinent" through the use of a value set established to identify procedure acts and other more general acts considered relevant for hearing care planning. Procedures and acts from the Procedure section which match one of the concepts in the established value sets (one for procedures, another for other acts) are gathered within this specialized sub-section in order to be readily available for more efficient review or processing when the hearing plan of care is accessed.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.7"
2. **SHALL** contain zero or one [0..1] **code/@code**="47519-4-HPOC" *HPOC History of Procedures* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. **SHALL** contain zero or one [0..1] **text**
4. **SHALL** contain zero or one [0..1] **title**
5. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **entry**
   a. Such entrys **SHALL** contain exactly one [1..1] **procedure**, where its type is *Hearing Plan Of Care Procedure Activity Procedure*
      a. Contains exactly one [1..1] *Hearing Plan Of Care Procedure Activity Procedure* (templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.20)
6. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **entry**
   a. Such entrys **SHALL** contain exactly one [1..1] **act**, where its type is *Hearing Plan Of Care Procedure Activity Act*
      a. Contains exactly one [1..1] *Hearing Plan Of Care Procedure Activity Act* (templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.21)

Hearing Plan Of Care Relevant Procedures Sub Section example

```
<section xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.7"/>
  <id root="MDHT" extension="875354122"/>
  <code code="47519-4-HPOC" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="HPOC History of Procedures"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <procedure>
      <id root="MDHT" extension="1580061394"/>
      <code code="919243958"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <priorityCode code="1502962617"/>
```

```
      <methodCode code="809818508"/>
      <targetSiteCode code="1323773189"/>
    </procedure>
  </entry>
  <entry>
    <act>
      <id root="MDHT" extension="1345267867"/>
      <code code="1074621859"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <priorityCode code="320728538"/>
    </act>
  </entry>
</section>
```

Hearing Plan Of Care Section

[Section: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.1]

Template Design Relationships
This template is an adaptation of the IHE Universal Hearing Plan of Care section template. Machine readable entries associated with this template have been modified to use US Realm vocabulary constraints established for this purpose.

This template adapts the design of the C-CDA R1.1 Plan of Care section template (2.16.840.1.113883.10.20.22.2.10) by narrowing the purpose to address only the hearing plan of care.

Template Purpose
The Hearing Plan of Care section contains data that defines pending orders, planned interventions (treatments (procedures)), scheduled appointments (visits (encounters)), planned testing services (observations), intended actions (act) for the patient or family members to perform, and instructions which are related to the hearing plan of care. It is limited to prospective, unfulfilled, or incomplete orders and requests only, which are indicated by the @moodCode of the entries within this section. All active, incomplete, or pending orders, appointments, referrals, procedures, services, or any other pending event of clinical significance to the current care of the patient should be listed unless constrained due to privacy issues. The plan may also contain information about ongoing care of the patient and clinical reminders. Clinical reminders are placed here to provide prompts for disease prevention and management, patient safety, and health-care quality improvements, including widely accepted performance measures. The plan may also indicate that patient education will be provided (act).

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.1"
2. **SHALL** contain exactly one [1..1] **code/@code**="18776-5" *Plan of Care for Hearing* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. **SHALL** contain exactly one [1..1] **title**
4. **SHALL** contain exactly one [1..1] **text**
5. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **entry**
   a. Such entrys **SHALL** contain exactly one [1..1] **act**, where its type is *Hearing Plan Of Care Activity Act*
      a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Act* (templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.2)
6. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **entry**

   a. Such entrys **SHALL** contain exactly one [1..1] **`encounter`**, where its type is *Hearing Plan Of Care Activity Encounter*

      a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Encounter* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.3`)

7. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**

   a. Such entrys **SHALL** contain exactly one [1..1] **`observation`**, where its type is *Hearing Plan Of Care Activity Observation*

      a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Observation* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.4`)

8. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**

   a. Such entrys **SHALL** contain exactly one [1..1] **`procedure`**, where its type is *Hearing Plan Of Care Activity Procedure*

      a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Procedure* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.5`)

9. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**

   a. Such entrys **SHALL** contain exactly one [1..1] **`substanceAdministration`**, where its type is *Hearing Plan Of Care Activity Substance Administration*

      a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Substance Administration* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.6`)

10. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**

    a. Such entrys **SHALL** contain exactly one [1..1] **`supply`**, where its type is *Hearing Plan Of Care Activity Non Medicinal Supply*

       a. Contains exactly one [1..1] *Hearing Plan Of Care Activity Non Medicinal Supply* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.7`)

11. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**

    a. Such entrys **SHALL** contain exactly one [1..1] **`act`**, where its type is *Hearing Plan Of Care Instructions*

       a. Contains exactly one [1..1] *Hearing Plan Of Care Instructions* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.1`)

Hearing Plan Of Care Section example

```
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.1"/>
  <id root="MDHT" extension="1000239743"/>
  <code code="18776-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Plan of Care for Hearing"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <act>
      <id root="MDHT" extension="2027732117"/>
      <code code="1959019211"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </act>
  </entry>
  <entry>
```

```
    <encounter>
      <id root="MDHT" extension="335524062"/>
      <code code="1147410014"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
    </encounter>
  </entry>
  <entry>
    <observation>
      <id root="MDHT" extension="1290811642"/>
      <code code="438641639"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </observation>
  </entry>
  <entry>
    <procedure>
      <id root="MDHT" extension="1953267030"/>
      <code code="1549364755"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </procedure>
  </entry>
  <entry>
    <substanceAdministration>
      <id root="MDHT" extension="1584432760"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime xsi:type="PIVL_TS" value="20150211"/>
      <repeatNumber value="1"/>
      <routeCode code="494922051"/>
      <approachSiteCode code="1046391871"/>
      <doseQuantity/>
      <rateQuantity/>
      <maxDoseQuantity/>
      <administrationUnitCode code="828867614"/>
      <consumable/>
      <performer/>
      <participant typeCode="CSM"/>
      <entryRelationship typeCode="RSON"/>
      <entryRelationship typeCode="SUBJ" inversionInd="true"/>
      <entryRelationship typeCode="REFR"/>
      <entryRelationship typeCode="REFR"/>
      <entryRelationship typeCode="CAUS"/>
      <precondition typeCode="PRCN"/>
    </substanceAdministration>
  </entry>
  <entry>
    <supply>
      <id root="MDHT" extension="501157862"/>
      <code code="210052947"/>
      <text>Text Value</text>
      <effectiveTime value="20150211"/>
      <quantity/>
      <participant typeCode="PRD"/>
    </supply>
```

```
  </entry>
  <entry>
    <act>
      <code code="966117108"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </act>
  </entry>
</section>
```

Hearing Screening Section

[Section: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.2]

Template Design Relationships
This template adapts the IHE UV Realm Hearing Screening section template. Machine readable entries associated with this template have been modified to use US Realm vocabulary constraints established for this purpose.

This template adapts the C-CDA R1.1 Results section template (2.16.840.1.113883.10.20.22.2.3.1) narrowing the purpose to address only hearing screening results. A more complex organizer structure is used to record hearing screening results.

Template Purpose
The Hearing Screening section includes a screening outcome observation for each ear, which summarizes the screening results gathered for each ear. It also documents the individual screening result observations generated by the screening device each time an ear is tested.
The methodologies for summarizing screening result observations into a single screening outcome observation are jurisdictionally defined and are not specified or constrained within this template.

Implementer Guidance:
Methodologies for summarizing hearing screening result observations into a single hearing screening outcome for an ear are jurisdictionally defined. Systems implementing this profile as a Content Creator are required to process hearing screening results based upon a methodology which is outside the scope of this profile.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.2"
2. **SHALL** conform to *Consol Results Section* template (templateId: 2.16.840.1.113883.10.20.22.2.3.1)
3. **SHALL** contain exactly one [1..1] **code/@code**="30954-2-HPOC" *Relevant diagnostic tests and/or laboratory data for Hearing Screening* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
4. **SHALL** contain exactly one [1..1] **text**
5. **SHALL** contain exactly one [1..1] **title**
6. If section/@nullFlavor is not present, **SHALL** contain exactly one [1..1] **entry**
   a. This entry **SHALL** contain exactly one [1..1] **organizer**, where its type is *Hearing Screening Organizer*
      a. Contains exactly one [1..1] *Hearing Screening Organizer* (templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.8)

Hearing Screening Section example

```
<section xmlns="urn:hl7-org:v3">
```

```
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.2"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.3.1"/>
  <id root="MDHT" extension="1353983945"/>
  <code code="30954-2" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Relevant diagnostic tests and/or
 laboratory data"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <organizer>
      <id root="MDHT" extension="2010229292"/>
      <code code="505633934"/>
      <statusCode code="completed"/>
      <component/>
      <component/>
      <component/>
    </organizer>
  </entry>
</section>
```

Problems Section

[Section: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.4`]

Template Design Relationships
This template is an adaptation of the IHE UV Realm Problems section template. Machine readable entries associated with this template have been modified to use US Realm vocabulary constraints established for this purpose.

This template adapts the design of the C-CDA R1.1 Problem section template (2.16.840.1.113883.10.20.22.2.5.1) the same entries are used, but an additional optional sub-section is added which can be used to indicate concerns which may be relevant for hearing screening.

Template Purpose
This section lists and describes all clinical problems at the time the document is generated. At a minimum, all current and historical problems should be listed.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.4"
2. **SHALL** contain exactly one [1..1] **`code/@code`**="`11450-4`" *Problem List* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
3. **SHALL** contain exactly one [1..1] **`title`**
4. **SHALL** contain exactly one [1..1] **`text`**
5. If section/@nullFlavor is not present, **SHALL** contain at least one [1..*] **`entry`**
   a. Such entrys Contains exactly one [1..1] **`act`**, where its type is *Problem Concern*
      a. Contains exactly one [1..1] *Problem Concern* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.16`)
6. **MAY** contain zero or one [0..1] **`component`**
   a. This component Contains exactly one [1..1] **`section`**, where its type is *Hearing Plan Of Care Problems Sub Section*
      a. Contains exactly one [1..1] *Hearing Plan Of Care Problems Sub Section* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.5`)

Problems Section example

```
<section xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.4"/>
  <id root="MDHT" extension="687974987"/>
  <code code="11450-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Problem List"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <act>
      <id root="MDHT" extension="1842806767"/>
      <code code="1870940852"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </act>
  </entry>
  <component>
    <section>
      <code code="800818987"/>
      <title>TEXT FOR TITLE</title>
      <text/>
      <entry/>
      <entry>
        <act/>
      </entry>
      <entry>
        <encounter/>
      </entry>
      <entry>
        <observation/>
      </entry>
      <entry>
        <observationMedia/>
      </entry>
      <entry>
        <organizer/>
      </entry>
      <entry>
        <procedure/>
      </entry>
      <entry>
        <regionOfInterest/>
      </entry>
      <entry>
        <substanceAdministration/>
      </entry>
      <entry>
        <supply/>
      </entry>
    </section>
  </component>
</section>
```

Procedure Section

[Section: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.6`]

Template Design Relationships
This template is an adaptation of the IHE Universal Procedures section template. Machine readable entries associated with this template have been modified to use US Realm vocabulary constraints established for this purpose.

This template is an adaption of the C-CDA R1.1 Procedures section template (2.16.840.1.113883.10.20.22.2.7.1). It does not utilize the Procedure Activity Observation as direct entry of the section and permits use of that template within the context of a Procedure 2670 Activity Procedure or Procedure Activity Act.

Template Purpose
This section defines all interventional, surgical, or therapeutic procedures or treatments pertinent to the patient historically at the time the document is generated. It does not include diagnostic procedures. Diagnostic and screening procedures are recorded in a Result Section. Procedures recorded in this section are encoded using one of two machine readable entry templates. A Procedure Activity Procedure entry is used to record procedures that alter the physical condition of a patient (Splenectomy). A Procedure Activity Act entry is for all other types of procedures (dressing change). If a procedure produces new information about a patient, that information is recorded using the Procedure Activity Observation template as an entry relationship to the procedure or act entry with which the observation is associated. The Activity Observation template is only used as a subordinate act to the procedure of act entries associated with this section.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.6"
2. **SHALL** contain exactly one [1..1] **`code/@code`**="`47519-4`" (CodeSystem: `2.16.840.1.113883.6.1` `LOINC`)
3. **SHALL** contain exactly one [1..1] **`title`**
4. **SHALL** contain exactly one [1..1] **`text`**
5. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**
   a. Such entrys Contains exactly one [1..1] **`procedure`**, where its type is *Procedure Activity Procedure*
      a. Contains exactly one [1..1] *Procedure Activity Procedure* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18`)
6. If section/@nullFlavor is not present, **MAY** contain zero or more [0..*] **`entry`**
   a. Such entrys Contains exactly one [1..1] **`act`**, where its type is *Procedure Activity Act*
      a. Contains exactly one [1..1] *Procedure Activity Act* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.19`)

Procedure Section example

```
<section xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.6"/>
  <id root="MDHT" extension="978367557"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <procedure>
      <id root="MDHT" extension="505167000"/>
      <code code="70128287"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <priorityCode code="929412425"/>
      <methodCode code="1577572399"/>
```

```
      <targetSiteCode code="1704993689"/>
    </procedure>
  </entry>
  <entry>
    <act>
      <id root="MDHT" extension="255974282"/>
      <code code="320510648"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <priorityCode code="1288820644"/>
      <entryRelationship typeCode="COMP" inversionInd="true"/>
      <entryRelationship typeCode="SUBJ" inversionInd="true"/>
      <entryRelationship typeCode="RSON"/>
      <entryRelationship typeCode="COMP"/>
      <entryRelationship typeCode="COMP"/>
    </act>
  </entry>
</section>
```

Risk Indicators For Hearing Loss Section

[Section: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.3`]

Template Design Relationships
This template is an adaptation of the IHE UV Realm Risk Indicators for Hearing Loss section template. Machine readable entries associated with this template have been modified to use US Realm vocabulary constraints established for this purpose.
The design is adapted from templates being developed for C-CDA R2.0 which are intended to track identified risks.

Template Purpose
The Risk Indicators for Hearing Loss section indicates if specific risks relevant to hearing loss are present or not. Use of null flavors, to encode information indicating that an assessment of the risk was not performed or to record that no information is currently available in the system, is out of scope for this template. (Alternate representations using a nullFlavor section or an alternate entry patterns for nullFlavor expressions will be considered for a future version.)

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.3"
2. **SHALL** contain exactly one [1..1] **`code`** (CONF:15433)**`/@code`**=`"58232-0"` *Hearing Loss Risk Indicators* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
3. If section/@nullFlavor is not present, **SHOULD** contain zero or more [0..*] **`entry`**
   a. Such entrys Contains exactly one [1..1] **`observation`**, where its type is *Risk Indicator For Hearing Loss Observation*
      a. Contains exactly one [1..1] *Risk Indicator For Hearing Loss Observation* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.1.4.15`)
4. **SHALL** contain exactly one [1..1] **`title`**
5. **SHALL** contain exactly one [1..1] **`text`**

Risk Indicators For Hearing Loss Section example

```
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.3.3"/>
  <id root="MDHT" extension="877262926"/>
```

```
  <code code="58232-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Hearing Loss Risk Indicators"/>
  <title>TEXT FOR TITLE</title>
  <text/>
  <entry>
    <observation>
      <id root="MDHT" extension="601574757"/>
      <code code="480331515"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="1036397954"/>
    </observation>
  </entry>
</section>
```

Chapter 4

CLINICAL STATEMENT TEMPLATES

Topics:

- *Hearing Plan Of Care Activity Act*
- *Hearing Plan Of Care Activity Encounter*
- *Hearing Plan Of Care Activity Non Medicinal Supply*
- *Hearing Plan Of Care Activity Observation*
- *Hearing Plan Of Care Activity Procedure*
- *Hearing Plan Of Care Activity Substance Administration*
- *Hearing Plan Of Care Instructions*
- *Hearing Plan Of Care Problem Concern*
- *Hearing Plan Of Care Procedure Activity Act*
- *Hearing Plan Of Care Procedure Activity Procedure*
- *Hearing Screening Organizer*
- *Hearing Screening Outcome Observation Left*
- *Hearing Screening Outcome Observation Right*
- *Hearing Screening Result Observation*
- *Hearing Screening Results Organizer*
- *Problem Concern*
- *Procedure Activity Act*
- *Procedure Activity Procedure*
- *Reason Not Screened*
- *Risk Indicator For Hearing Loss Observation*

This section of the Implementation Guide details the clinical statement entries referenced in the document section templates. The clinical statement entry templates are arranged alphabetically.

Hearing Plan Of Care Activity Act

[Act: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.2]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Act template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is a specialization of the C-CDA R1.1 Plan of Care Activity Act template (2.16.840.1.113883.10.20.22.4.39). A value set is added to express the type of care activities relevant to a hearing plan of care.

Template Purpose
This is the generic template for the Plan of Care Activity. This template is used to record actions the patient or patient's family should perform and education that should be received.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.2"
2. **SHALL** conform to *Consol Plan Of Care Activity Act* template (templateId: 2.16.840.1.113883.10.20.22.4.39)
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCActivityAct* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.4 **STATIC** 1
4. **SHALL** contain exactly one [1..1] **text**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **SHALL** contain exactly one [1..1] **statusCode**
6. **SHALL** contain exactly one [1..1] **effectiveTime**
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high

Hearing Plan Of Care Activity Act example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.2"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.39"/>
  <id root="MDHT" extension="1908586515"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</act>
```

Hearing Plan Of Care Activity Encounter

[Encounter: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.3]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Encounter template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is based on the C-CDA R1.1 Plan of Care Activity Encounter template (2.16.840.1.113883.10.20.22.4.40). A value set is added to express the type of encounter activities relevant to a hearing plan of care.

Template Purpose
This is the template for the Plan of Care Activity Encounter. This template is used to record scheduled appointments with a specific care provider.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.3"
2. **SHALL** conform to *Consol Plan Of Care Activity Encounter* template (templateId: `2.16.840.1.113883.10.20.22.4.40`)
3. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet *`VS_HPoCActivityEncounter`* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.5` **STATIC** 1
4. **SHALL** contain exactly one [1..1] **`statusCode`**
5. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
6. Contains exactly one [1..1] **`effectiveTime`**
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high

Hearing Plan Of Care Activity Encounter example

```
<encounter xmlns="urn:hl7-org:v3" classCode="ENC">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.40"/>
  <id root="MDHT" extension="196587910"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</encounter>
```

Hearing Plan Of Care Activity Non Medicinal Supply

[Supply: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.7`]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Non-medicinal Supply template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is based on the C-CDA R1.1 Plan of Care Activity Non-medicinal Supply template. A value set is added to express the type of non-medicinal supply activities relevant to a hearing plan of care. The participant participation is added to represent the device or equipment being supplied.

Template Purpose
This is the template for the Plan of Care Activity for supplying non-medicinal medical Equipment.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.7"

2. **SHALL** conform to *Consol Plan Of Care Activity Supply* template (templateId: 2.16.840.1.113883.10.20.22.4.43)
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCActivityNon-MedicinalSupply* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.9 **STATIC** 1
4. **SHALL** contain exactly one [1..1] **text**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **SHOULD** contain zero or one [0..1] **effectiveTime**
   a. **SHALL** satisfy: contains zero or one [0..1] high.
6. **SHOULD** contain zero or one [0..1] **quantity**
7. **MAY** contain zero or more [0..*] **participant**
   a. Such participants **SHALL** contain exactly one [1..1] **@typeCode/@code**="PRD" (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType)
   b. Such participants **SHALL** contain exactly one [1..1] **participantRole**, where its type is *Consol Product Instance*
      a. Contains exactly one [1..1] *Consol Product Instance* (templateId: 2.16.840.1.113883.10.20.22.4.37)

Hearing Plan Of Care Activity Non Medicinal Supply example

```
<supply xmlns="urn:hl7-org:v3" classCode="SPLY">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.7"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.43"/>
  <id root="MDHT" extension="1687302847"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <effectiveTime value="20150211"/>
  <quantity/>
  <participant typeCode="PRD">
    <participantRole>
      <id root="MDHT" extension="589470882"/>
      <playingDevice/>
      <scopingEntity/>
    </participantRole>
  </participant>
</supply>
```

Hearing Plan Of Care Activity Observation

[Observation: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.4]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Observation template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is based on the C-CDA R1.1 Plan of Care Activity Observation template (2.16.840.1.113883.10.20.22.4.44). A value set is added to express the type of observation activities relevant to a hearing plan of care.

Template Purpose
This is the template for the Plan of Care Activity observation. This template is used to record diagnostic tests and screenings which produce results.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.4"
2. **SHALL** conform to *Consol Plan Of Care Activity Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.44)
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCActivityObservation* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.6 **STATIC** 1
4. **SHALL** contain exactly one [1..1] **effectiveTime**
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high
5. **SHALL** contain exactly one [1..1] **statusCode**
6. **SHALL** contain exactly one [1..1] **text**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)

Hearing Plan Of Care Activity Observation example

```
<observation xmlns="urn:hl7-org:v3" classCode="OBS">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.4"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.44"/>
  <id root="MDHT" extension="1247505830"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</observation>
```

Hearing Plan Of Care Activity Procedure

[Procedure: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.5]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Procedure template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is a specialization of the C-CDA R1.1 Plan of Care Activity Procedure template (2.16.840.1.113883.10.20.22.4.41). A value set is added to express the type of procedure activities relevant to a hearing plan of care.

Template Purpose
This is the template for the Plan of Care Activity procedure. This template is used to record treatment or surgical procedures which produce health outcomes that change a patient's health status or condition.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.5"
2. **SHALL** conform to *Consol Plan Of Care Activity Procedure* template (templateId: 2.16.840.1.113883.10.20.22.4.41)
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_HPoCActivityProcedure* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.7 **STATIC** 1
4. **SHALL** contain exactly one [1..1] **effectiveTime**
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high

5. **SHALL** contain exactly one [1..1] **`statusCode`**
6. **SHALL** contain exactly one [1..1] **`text`**
    a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)

Hearing Plan Of Care Activity Procedure example

```
<procedure xmlns="urn:hl7-org:v3" classCode="PROC">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.5"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
  <id root="MDHT" extension="1417784301"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</procedure>
```

Hearing Plan Of Care Activity Substance Administration

[SubstanceAdministration: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.6`]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Substance Administration template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is based on the C-CDA R1.1 Plan of Care Activity Substance Administration template. A value set is added to express the type of substance administration activities relevant to a hearing plan of care. The consumable participation is also added to represent the material or drug administered.

Template Purpose
This is the template for the Plan of Care Activity for administering substances.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.6"
2. **SHALL** conform to *Consol Plan Of Care Activity Substance Administration* template (templateId: `2.16.840.1.113883.10.20.22.4.42`)
3. **SHALL** contain zero or one [0..1] **`code`**, which **SHALL** be selected from ValueSet *`VS_HPoCActivitySubstanceAdministration`* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.8` **STATIC** 1
4. **SHALL** contain exactly one [1..1] **`text`**
    a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **SHALL** contain exactly one [1..1] **`statusCode`**
6. **MAY** contain zero or one [0..1] **`repeatNumber`**
    a. **SHALL** satisfy: CONDITIONAL In "INT" (intent) mood, the repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times. In "EVN" (event) mood, the repeatNumber is the number of occurrences. For example, a repeatNumber of "3" in a substance administration in "EVN" means that the represented administration is the 3rd in a series.

7. **MAY** contain zero or one [0..1] **routeCode**, which **SHALL** be selected from ValueSet `Medication Route FDA 2.16.840.1.113883.3.88.12.3221.8.7` **STATIC** 1
8. **MAY** contain zero or one [0..1] **administrationUnitCode**, which **SHALL** be selected from ValueSet `Medication Product Form Value Set 2.16.840.1.113883.3.88.12.3221.8.11` **STATIC** 1
9. **SHOULD** contain zero or one [0..1] **effectiveTime** with @xsi:type="PIVL_TS"
    a. **SHALL** satisfy: contains exactly one [1..1] @operator="A"
    b. **SHALL** satisfy: contains exactly one [1..1] @xsi:type="PIVL_TS" or "EIVL_TS"
10. **MAY** contain zero or one [0..1] **approachSiteCode**, which **SHALL** be selected from ValueSet `Body Site Value Set 2.16.840.1.113883.3.88.12.3221.8.9` **STATIC** 2
11. **SHOULD** contain zero or one [0..1] **doseQuantity**
    a. CONDITIONAL The doseQuantity, if present, **SHALL** contain zero or one [0..1] @unit, selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 CWE, DYNAMIC.
    b. **SHALL** satisfy: Pre-coordinated consumable: If the consumable code is a pre-coordinated unit dose (e.g., "metoprolol 25mg tablet") then doseQuantity is a unitless number that indicates the number of products given per administration (e.g., "2", meaning 2 x "metoprolol 25mg tablet")
    c. **SHALL** satisfy: Not pre-coordinated consumable: If the consumable code is not pre-coordinated (e.g., is simply "metoprolol"), then doseQuantity must represent a physical quantity with @unit, e.g., "25" and "mg", specifying the amount of product given per administration
12. **MAY** contain zero or one [0..1] **rateQuantity**
    a. CONDITIONAL The rateQuantity, if present, **SHALL** contain exactly one [1..1] @unit, selected from ValueSet UnitsOfMeasureCaseSensitive 2.16.840.1.113883.1.11.12839 CWE, DYNAMIC
13. **MAY** contain zero or one [0..1] **maxDoseQuantity**
14. **SHALL** contain exactly one [1..1] **consumable**
    a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct**, where its type is *Consol Medication Information*
        a. Contains exactly one [1..1] *Consol Medication Information* (templateId: `2.16.840.1.113883.10.20.22.4.23`)
15. **MAY** contain zero or one [0..1] **performer**
    a. Contains exactly one [1..1] CDA Performer2
16. **MAY** contain zero or more [0..*] **participant**
    a. Such participants **SHALL** contain exactly one [1..1] **@typeCode/@code**="CSM" (CodeSystem: `2.16.840.1.113883.5.90 HL7ParticipationType`)
    b. Such participants Contains exactly one [1..1] **participantRole**, where its type is *Consol Drug Vehicle*
        a. Contains exactly one [1..1] *Consol Drug Vehicle* (templateId: `2.16.840.1.113883.10.20.22.4.24`)
17. **MAY** contain zero or more [0..*] **entryRelationship**
    a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode/@code**="RSON" (CodeSystem: `2.16.840.1.113883.5.1002 HL7ActRelationshipType`)
    b. Such entryRelationships Contains exactly one [1..1] **observation**, where its type is *Consol Indication*
        a. Contains exactly one [1..1] *Consol Indication* (templateId: `2.16.840.1.113883.10.20.22.4.19`)
18. **MAY** contain zero or one [0..1] **entryRelationship**
    a. This entryRelationship Contains exactly one [1..1] **@inversionInd**="true"
    b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode/@code**="SUBJ" (CodeSystem: `2.16.840.1.113883.5.1002 HL7ActRelationshipType`)
    c. This entryRelationship Contains exactly one [1..1] **act**, where its type is *Consol Instructions*
        a. Contains exactly one [1..1] *Consol Instructions* (templateId: `2.16.840.1.113883.10.20.22.4.20`)

19. **MAY** contain zero or one [0..1] **`entryRelationship`**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **`@typeCode/@code`**="REFR" (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType)
    b. This entryRelationship Contains exactly one [1..1] **`supply`**, where its type is *Consol Medication Supply Order*
        a. Contains exactly one [1..1] *Consol Medication Supply Order* (templateId: 2.16.840.1.113883.10.20.22.4.17)
20. **MAY** contain zero or more [0..*] **`entryRelationship`**
    a. Such entryRelationships **SHALL** contain exactly one [1..1] **`@typeCode/@code`**="REFR" (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType)
    b. Such entryRelationships Contains exactly one [1..1] **`supply`**, where its type is *Consol Medication Dispense*
        a. Contains exactly one [1..1] *Consol Medication Dispense* (templateId: 2.16.840.1.113883.10.20.22.4.18)
21. **MAY** contain zero or one [0..1] **`entryRelationship`**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **`@typeCode/@code`**="CAUS" (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType)
    b. This entryRelationship Contains exactly one [1..1] **`observation`**, where its type is *Consol Reaction Observation*
        a. Contains exactly one [1..1] *Consol Reaction Observation* (templateId: 2.16.840.1.113883.10.20.22.4.9)
22. **MAY** contain zero or more [0..*] **`precondition`**
    a. Such preconditions Contains exactly one [1..1] **`@typeCode`**="PRCN"
    b. Such preconditions Contains exactly one [1..1] **`criterion`**, where its type is *Consol Precondition For Substance Administration*
        a. Contains exactly one [1..1] *Consol Precondition For Substance Administration* (templateId: 2.16.840.1.113883.10.20.22.4.25)

Hearing Plan Of Care Activity Substance Administration example

```
<substanceadministration xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="urn:hl7-org:v3" classCode="SBADM">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.6"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.42"/>
  <id root="MDHT" extension="708865562"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime xsi:type="PIVL_TS" value="20150211"/>
  <repeatNumber value="1"/>
  <routeCode codeSystem="2.16.840.1.113883.3.26.1.1" codeSystemName="NCI
 Thesaurus"/>
  <approachSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
  <doseQuantity/>
  <rateQuantity/>
  <maxDoseQuantity/>
  <administrationUnitCode codeSystem="2.16.840.1.113883.3.26.1.1"
 codeSystemName="NCI Thesaurus"/>
  <consumable>
    <manufacturedProduct>
      <id root="MDHT" extension="1355096941"/>
      <manufacturedMaterial>
        <code codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"/>
      </manufacturedMaterial>
```

```
      <manufacturerOrganization/>
    </manufacturedProduct>
  </consumable>
  <performer/>
  <participant typeCode="CSM">
    <participantRole>
      <playingEntity/>
    </participantRole>
  </participant>
  <entryRelationship typeCode="RSON">
    <observation>
      <id root="MDHT" extension="1027054957"/>
      <code code="1513385456"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="1132900216"/>
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act>
      <code code="1619751885"/>
      <text>Text Value</text>
    </act>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <supply>
      <id root="MDHT" extension="1461317251"/>
      <statusCode code="completed"/>
      <effectiveTime value="20150211"/>
      <repeatNumber value="1"/>
      <quantity/>
      <author/>
    </supply>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <supply>
      <id root="MDHT" extension="1123241373"/>
      <effectiveTime value="20150211"/>
      <repeatNumber value="1"/>
      <quantity/>
      <performer/>
    </supply>
  </entryRelationship>
  <entryRelationship typeCode="CAUS">
    <observation>
      <id root="MDHT" extension="1092815714"/>
      <code code="835164901"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
    </observation>
  </entryRelationship>
  <precondition typeCode="PRCN">
    <criterion>
      <code code="140604887"/>
      <text>Text Value</text>
    </criterion>
  </precondition>
</substanceadministration>
```

Hearing Plan Of Care Instructions

[Act: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.1`]

Template Design Relationships
This template is a specialization of the IHE UV Realm HPoC Activity Act template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is a specialization of the C-CDA R1.1 Plan of Care Activity Act template (2.16.840.1.113883.10.20.22.4.39). A value set is added to express the type of care activities relevant to a hearing plan of care.

Template Purpose
This is the generic template for the Plan of Care Activity. This template is used to record actions the patient or patient's family should perform and education that should be received.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.1"
2. **SHALL** conform to *Consol Instructions* template (templateId: `2.16.840.1.113883.10.20.22.4.20`)
3. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet *`VS_HPoCInstructions`* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.3` **STATIC** 1
4. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **SHALL** contain exactly one [1..1] **`effectiveTime`**
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**=`"completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:7396)

Hearing Plan Of Care Instructions example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT" moodCode="INT">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.1"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
  <id root="MDHT" extension="2062950936"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</act>
```

Hearing Plan Of Care Problem Concern

[Act: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.17`]

Template Design Relationships
This template is an adaptation of the IHE US Realm Problem Concern template. The entry uses a more tightly constrained design. Entries are limited to only those procedures defined to be relevant to hearing screening. The entry is only an id pointer to concerns within the procedure list which match the defined inclusion criteria.

Template Purpose
The problem concern template is a "tracker" which allows one or more problem observations to be grouped together and tracked over time as being associated with this particular concern. The HPOC Problem Concern template further includes constraints which identify the concerns being tracked which include a Problem Observation that is relevant for Hearing Screening.

Note: An HPoC Problem Concern does not repeat the full content of a Problem Concern, it only "points to" the Problem Concern with the associated id.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.17"
2. **SHALL** conform to *Consol Problem Concern Act* template (templateId: `2.16.840.1.113883.10.20.22.4.3`)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:9026)
   a. **SHALL** reference the id of the associated Problem Concern Entry where the conditional conformance statement for the value element of the Problem Concern entry is true
4. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:9030)
6. **SHALL** satisfy: CONDITIONAL For each Problem Concern entry in the Problems Section where at least one Problem Observation (templateId:2.16.840.1.113883.10.20.22.4.4) has a value element with an @code that is present in Value Set VS_HPoCProblemObservations 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.17

Hearing Plan Of Care Problem Concern example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.17"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
  <id root="MDHT" extension="551818025"/>
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6"
 codeSystemName="HL7ActClass" displayName="Concern"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</act>
```

Hearing Plan Of Care Procedure Activity Act

[Act: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.21`]

Template Design Relationships
This template is an adaptation of the IHE US Realm Procedure Activity Act template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose. This entry uses a more tightly constrained design. It is limited to only those treatment acts that match to a set of acts defined, in a value set, to be relevant to hearing screening. The entry contains an id pointer to acts within the procedure list which match the defined inclusion criteria.

Template Purpose

The HPOC Procedure Activity Act template identifies the acts within the procedure section that are relevant for Hearing Screening.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.21"
2. **SHALL** conform to *Consol Procedure Activity Act* template (templateId: `2.16.840.1.113883.10.20.22.4.12`)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:8292)
   a. **SHALL** satisfy: references the id of the associated Procedure Activity Act where the conditional conformance statement for the code element of the Procedure Activity Act entry is true
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:8293)
   a. contain zero or one [0..1] originalText. The originalText, if present, **SHALL** contain exactly one [1..1] reference such that it contain exactly one [1..1] @value such that it begin with a '#' and point to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
   b. **SHALL** satisfy: be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96)
5. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
6. **SHALL** satisfy: CONDITIONAL For each Procedure Activity Act entry(templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18) in the Procedure Section where the code element has an @code that is present in Value Set VS_HPoCProcedureActivityAct 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.18

Hearing Plan Of Care Procedure Activity Act example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.21"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.12"/>
  <id root="MDHT" extension="1554583467"/>
  <code code="171240572"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <priorityCode codeSystem="2.16.840.1.113883.5.7"
 codeSystemName="ActPriority"/>
</act>
```

Hearing Plan Of Care Procedure Activity Procedure

[Procedure: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.20`]

Template Design Relationships
This template is an adaptation of the IHE US Realm Procedure Activity Procedure template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose. This entry uses a more tightly constrained design. It is limited to only those procedures that match to a set of procedures defined, in a value set, to be relevant to hearing screening. The entry contains an id pointer to procedures within the procedure list which match the defined inclusion criteria

Template Purpose
The HPOC Procedure Activity Procedure template identifies the procedures within the procedure section that are relevant for Hearing Screening.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.20"
2. **SHALL** conform to *Consol Procedure Activity Procedure* template (templateId: `2.16.840.1.113883.10.20.22.4.14`)
3. **SHALL** contain exactly one [1..1] **`id`** (CONF:7655)
   a. **SHALL** reference the id of the associated Procedure Activity Procedure where the conditional conformance statement for the code element of the Procedure Activity Procedure entry is true
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:7656)
   a. contain zero or one [0..1] originalText. The originalText, if present, **SHALL** contain exactly one [1..1] reference such that it contain exactly one [1..1] @value such that it begin with a '#' and point to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
   b. **SHALL** satisfy: selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and or CPT-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4)
5. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
6. **SHALL** satisfy: CONDITIONAL For each Procedure Activity Procedure entry(templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18) in the Procedure Section where the code element has an @code that is present in Value Set VS_HPoCProcedureActivityProcedure 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.19

Hearing Plan Of Care Procedure Activity Procedure example

```
<procedure xmlns="urn:hl7-org:v3" classCode="PROC">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.20"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
  <id root="MDHT" extension="1096268502"/>
  <code code="1795015668"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <priorityCode codeSystem="2.16.840.1.113883.5.7"
 codeSystemName="ActPriority"/>
  <methodCode code="278256263"/>
  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
</procedure>
```

Hearing Screening Organizer

[Organizer: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.8`]

Template Design Relationships
This template further constrains of the IHE US Realm Hearing Screening Organizer section template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is builds upon on the C-CDA R1.1 Result Organizer template.

Template Purpose
This organizer records the outcome assessment of the hearing screening and the associated results used to determine the outcome assessment. It includes a component for the "screening outcome" for the left ear and a component

"screening outcome" for the right ear. Each of the outcome observations carries an optional indication of the reason screening was not performed. The Hearing Screening Organizer also includes the set of result observations which were gathered. They are a third component and are organized in a Results Organizer.

Note: If any Result Observation within the Result Organizer has a statusCode of 'active', the Result Organizer must also have as statusCode of 'active'.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.8"
2. **SHALL** conform to *Consol Result Organizer* template (templateId: `2.16.840.1.113883.10.20.22.4.1`)
3. **SHALL** contain exactly one [1..1] **`@classCode`**`="CLUSTER"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:7121)
4. **SHALL** contain exactly one [1..1] **`code`** (CONF:7128)**`/@code`**`="54111-0"` *Newborn Hearing Loss Panel* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
5. **SHALL** contain exactly one [1..1] **`component`**
   a. This component **SHALL** contain exactly one [1..1] **`observation`**, where its type is *Hearing Screening Outcome Observation Left*
      a. Contains exactly one [1..1] *Hearing Screening Outcome Observation Left* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.9`)
6. **SHALL** contain exactly one [1..1] **`component`**
   a. This component **SHALL** contain exactly one [1..1] **`observation`**, where its type is *Hearing Screening Outcome Observation Right*
      a. Contains exactly one [1..1] *Hearing Screening Outcome Observation Right* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.11`)
7. **SHALL** contain exactly one [1..1] **`component`**
   a. This component **SHALL** contain exactly one [1..1] **`organizer`**, where its type is *Hearing Screening Results Organizer*
      a. Contains exactly one [1..1] *Hearing Screening Results Organizer* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.12`)

Hearing Screening Organizer example

```
<organizer xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="CLUSTER" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.8"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
  <id root="MDHT" extension="1011714103"/>
  <code code="54111-0" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Newborn Hearing Loss Panel"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <component>
    <observation>
      <id root="MDHT" extension="283489915"/>
      <code code="2127889759"/>
      <text>Text Value</text>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="1962058321"/>
      <methodCode code="1069894523"/>
```

```
      <targetSiteCode code="1161896528"/>
      <author/>
      <entryRelationship typeCode="RSON"/>
    </observation>
  </component>
  <component>
    <observation>
      <id root="MDHT" extension="744807298"/>
      <code code="1722367389"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="219609018"/>
      <methodCode code="1181860442"/>
      <targetSiteCode code="256943861"/>
      <author/>
      <entryRelationship typeCode="RSON"/>
    </observation>
  </component>
  <component>
    <organizer>
      <id root="MDHT" extension="1848897291"/>
      <code code="1407681518"/>
      <statusCode code="completed"/>
      <component/>
    </organizer>
  </component>
</organizer>
```

Hearing Screening Outcome Observation Left

[Observation: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.9`]

Template Design Relationships
This template is a further constraint of the IHE UV Realm Hearing Screening Outcome Observation - Left template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

Template Purpose
This observation records the assessment of the screening for the left ear. It uses a jurisdictionally defined algorithm for aggregating multiple screening results into a final assessment observation. When screening is not performed on an ear, the reason for not performing the screening is also recorded.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.9"
2. **SHALL** contain exactly one [1..1] **`@classCode`**="`OBS`" *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**="`EVN`" *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
4. **MAY** contain zero or one [0..1] **`@negationInd`**
5. **SHALL** contain at least one [1..*] **`id`**
6. **SHALL** contain exactly one [1..1] **`code/@code`**="`73741-1`" *Newborn Hearing screen panel of Ear - left* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
7. **SHALL** contain exactly one [1..1] **`text`**

   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)

8. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet `Result Status 2.16.840.1.113883.11.20.9.39` **STATIC** 2012-04-27
9. **SHALL** contain exactly one [1..1] **effectiveTime**
   - *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)*
10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet *VS_HearingScreeningOutcomeObservationValues* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.10` **STATIC** 1
11. **MAY** contain zero or one [0..1] **methodCode**, which **SHALL** be selected from ValueSet *VS_HearingScreeningMethods* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.13` **STATIC** 1
12. **MAY** contain zero or one [0..1] **targetSiteCode**, which **SHALL** be selected from ValueSet *VS_HearingScreeningTargetSites* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.12` **STATIC** 1
13. **MAY** contain zero or one [0..1] **entryRelationship**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="RSON"
    b. This entryRelationship **SHALL** contain exactly one [1..1] **act**, where its type is *Reason Not Screened*
       a. Contains exactly one [1..1] *Reason Not Screened* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10`)
14. **MAY** contain zero or one [0..1] **author**
    a. Contains exactly one [1..1] CDA Author

Hearing Screening Outcome Observation Left example

```
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="OBS" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.9"/>
  <id root="MDHT" extension="1433036970"/>
  <code code="73741-1" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Newborn Hearing screen panel of Ear -
 left"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <value xsi:type="CD" code="207490466"/>
  <methodCode codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
  <author/>
  <entryRelationship typeCode="RSON">
    <act>
      <code code="1785931162"/>
      <text>Text Value</text>
    </act>
  </entryRelationship>
</observation>
```

Hearing Screening Outcome Observation Right

[Observation: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.11`]

Template Design Relationships

This template is a further constraint of the IHE US Realm Hearing Screening Outcome Observation - Right template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

Template Purpose

This observation records the assessment of the screening for the right ear. It uses a jurisdictionally defined algorithm for aggregating multiple screening results into a final assessment observation. When screening is not performed on an ear, the reason for not performing the screening is also recorded.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.11"
2. **SHALL** contain exactly one [1..1] **`@classCode`**="`OBS`" *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**="`EVN`" *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
4. **MAY** contain zero or one [0..1] **`@negationInd`**
5. **SHALL** contain at least one [1..*] **`id`**
6. **SHALL** contain exactly one [1..1] **`code/@code`**="`73744-5`" *Newborn Hearing screen panel of Ear - right* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`)
7. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
8. **SHALL** contain exactly one [1..1] **`statusCode`**, which **SHALL** be selected from ValueSet `Result Status 2.16.840.1.113883.11.20.9.39` **STATIC** 2012-04-27
9. **SHALL** contain exactly one [1..1] **`effectiveTime`**
   - *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)*
10. **SHALL** contain exactly one [1..1] **`value`** with @xsi:type="CD"
11. **MAY** contain zero or one [0..1] **`methodCode`**, which **SHALL** be selected from ValueSet *`VS_HearingScreeningMethods`* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.13` **STATIC** 1
12. **MAY** contain zero or one [0..1] **`targetSiteCode`**, which **SHALL** be selected from ValueSet *`VS_HearingScreeningTargetSites`* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.12` **STATIC** 1
13. **MAY** contain zero or one [0..1] **`entryRelationship`**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **`@typeCode/@code`**="`RSON`" (CodeSystem: `2.16.840.1.113883.5.1002 HL7ActRelationshipType`)
    b. This entryRelationship **SHALL** contain exactly one [1..1] **`act`**, where its type is *Reason Not Screened*
       a. Contains exactly one [1..1] *Reason Not Screened* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10`)
14. **MAY** contain zero or one [0..1] **`author`**
    a. Contains exactly one [1..1] CDA Author

Hearing Screening Outcome Observation Right example

```
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="OBS" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.11"/>
  <id root="MDHT" extension="223107732"/>
  <code code="73744-5" codeSystem="2.16.840.1.113883.6.1"
 codeSystemName="LOINC" displayName="Newborn Hearing screen panel of Ear -
 right"/>
  <text>Text Value</text>
```

```
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <value xsi:type="CD" code="997861164"/>
  <methodCode codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
  <author/>
  <entryRelationship typeCode="RSON">
    <act>
      <code code="401857494"/>
      <text>Text Value</text>
    </act>
  </entryRelationship>
</observation>
```

Hearing Screening Result Observation

[Observation: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.13]

Template Design Relationships
This template is a further constraint of the IHE UV Realm Hearing Screening Result Observation template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is an adaptation of the C-CDA R1.1 Result Observation template (2.16.840.1.113883.10.20.22.4.2). Hearing screening devices return a value which results from interpreting their internal readings to produce a result from the device. In the future, if raw values will be returned from the device, then an interpretation code element would be needed and the associated reference ranges could be defined. For now, the value returned from the test is sufficient for both capturing the measure result and interpreting the result.

Template Purpose
This observation records the result of screening an ear. When the screening device returns an invalid reading, the reason for this invalid result may be recorded if it is known or determinable.
In this template the negationInd attribute of the observation act SHALL function as defined for Observation.ActionNegationInd in the HL7 V3 Core Principles. This negation behavior affects the action of the act and is further constrained by other elements of the act class which are the elements of the act class which are not considered related to the document's context. For example: elements like id and statusCode are not affected by the negation which the Observation.ActionNegationInd mechanism is used.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.13"
2. **SHALL** conform to *Consol Result Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.2)
3. Contains zero or one [0..1] **@negationInd**
   a. WHEN THE HEARING SCREENING WAS NOT PERFORMED: **SHALL** contain exactly one [1..1] @negationInd="true" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) STATIC.
4. **SHALL** contain exactly one [1..1] **code** (CONF:7133)**/@code**="417491009" *Neonatal Hearing Test (Procedure)* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
5. **SHALL** contain exactly one [1..1] **text** (CONF:7138)
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:7140, CONF:7141)

- *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).*

7. **SHALL** contain exactly one [1..1] **`value`** with @xsi:type="CD" (CONF:7143), which **SHALL** be selected from ValueSet *VS_HearingScreeningTestResultValues* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.14` **STATIC** 1
   a. **SHALL NOT** contain a value when negationInd="true"
8. **SHALL** contain zero or one [0..1] **`methodCode`** (CONF:7148), which **SHALL** be selected from ValueSet *VS_HearingScreeningMethods* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.13` **STATIC** 1
   a. **SHALL NOT** contain a methodCode when negationInd="true"
9. **SHALL** contain zero or one [0..1] **`targetSiteCode`** (CONF:7153), which **SHALL** be selected from ValueSet *VS_HearingScreeningTargetSites* `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.12` **STATIC** 1
   a. **SHALL NOT** contain a methodCode when negationInd="true"
10. **MAY** contain zero or one [0..1] **`author`**
    a. Contains exactly one [1..1] CDA Author
11. **SHOULD** contain zero or one [0..1] **`performer`**
    a. Contains exactly one [1..1] CDA Performer2
12. **SHALL** contain zero or one [0..1] **`entryRelationship`**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **`@typeCode`**="RSON"
    b. This entryRelationship **SHALL** contain exactly one [1..1] **`act`**, where its type is *Reason Not Screened*
       a. Contains exactly one [1..1] *Reason Not Screened* (templateId: `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10`)
13. Contains zero or one [0..1] **`entryRelationship`**
    a. This entryRelationship **SHALL** contain exactly one [1..1] **`@typeCode`**="REFR"
    b. This entryRelationship **SHALL** contain exactly one [1..1] **`act`**, where its type is *Consol Comment Activity*
       a. Contains exactly one [1..1] *Consol Comment Activity* (templateId: `2.16.840.1.113883.10.20.22.4.64`)

Hearing Screening Result Observation example

```
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="OBS" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.13"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
  <id root="MDHT" extension="1698364806"/>
  <code code="417491009" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Neonatal Hearing Test (Procedure)"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <value xsi:type="CD" code="111747114"/>
  <interpretationCode code="1637429324"/>
  <methodCode codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
  <performer/>
  <author/>
  <entryRelationship typeCode="RSON">
    <act>
      <code code="89348949"/>
      <text>Text Value</text>
```

```
    </act>
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <act>
      <code code="822917877"/>
      <text>Text Value</text>
      <author/>
    </act>
  </entryRelationship>
</observation>
```

Hearing Screening Results Organizer

[Organizer: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.12]

Template Design Relationships
This template is a further constraint of the IHE UV Realm Hearing Screening Results Organizer template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

The design is a further constraint of the C-CDA R1.1 Result Organizer (2.16.840.1.113883.10.20.22.4.1).

Template Purpose
This organizer records the hearing screening results used to determine the outcome assessments.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.12"
2. **SHALL** conform to *Consol Result Organizer* template (templateId: 2.16.840.1.113883.10.20.22.4.1)
3. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:7121)
4. **SHALL** contain exactly one [1..1] **code** (CONF:7128)**/@code**="417491009" *Neonatal Hearing Test (Procedure)* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
5. **SHALL** contain zero or more [0..*] **component**
   a. Such components **SHALL** contain exactly one [1..1] **observation**, where its type is *Hearing Screening Result Observation*
      a. Contains exactly one [1..1] *Hearing Screening Result Observation* (templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.13)
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:7123), which **SHALL** be selected from ValueSet Result Status 2.16.840.1.113883.11.20.9.39 **STATIC** 2012-04-27 (CONF:14848)

Hearing Screening Results Organizer example

```
<organizer xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="CLUSTER" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.12"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
  <id root="MDHT" extension="1106910765"/>
  <code code="417491009" codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT" displayName="Neonatal Hearing Test (Procedure)"/>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <component>
    <observation>
      <id root="MDHT" extension="915508971"/>
```

```
      <code code="2056899463"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="444135144"/>
      <interpretationCode code="889166356"/>
      <methodCode code="1812972935"/>
      <targetSiteCode xsi:type="CE" code="418654388"/>
      <performer/>
      <author/>
      <entryRelationship typeCode="RSON"/>
      <entryRelationship typeCode="REFR"/>
    </observation>
  </component>
</organizer>
```

Problem Concern

[Act: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.16]

Template Design Relationships
This template is an adaptation of the IHE UV Realm Problem Concern template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

This template is a design copy of the C-CDA R1.1 Problem Concern template (2.16.840.1.113883.10.20.22.4.3). This design for the Problem Concern directly references the HL7 C-CDA R1.1 Problem Observation template (transclusion). This design ensures that all structural and vocabulary constrains for expressing problem observations in the US Realm will be consistent.

Template Purpose
The problem concern template is a "tracker" which allows one or more problem observations to be grouped together and tracked over time as being associated with this particular concern.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.16"
2. **SHALL** conform to *Consol Problem Concern Act* template (templateId: 2.16.840.1.113883.10.20.22.4.3)
3. **SHALL** contain zero or one [0..1] **text**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:9030)
   - *The effectiveTime element records the starting and ending times during which the concern was active on the Problem List.*
   a. **SHALL** satisfy: contains exactly one [1..1] low and contains exactly one [1..1] high

Problem Concern example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.16"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.3"/>
  <id root="MDHT" extension="97949492"/>
```

```
  <code code="CONC" codeSystem="2.16.840.1.113883.5.6"
 codeSystemName="HL7ActClass" displayName="Concern"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</act>
```

Procedure Activity Act

[Act: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.19]

Template Design Relationships
This template is a further constraint of the IHE UV Realm Procedure Activity Act template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

This template is an adaptation of the C-CDA R1.1 Procedure Activity Procedure template (2.16.840.1.113883.10.20.22.4.14). It references, by transclusion, other C-CDA R1.1 templates used within Procedure Activity Procedure template including: Indication, Instruction, Medication Activity, and Service Delivery Location. It also supports an optional procedure activity observation template which can be used to new information about the patient that is discovered during the course of providing care or performing a treatment.

Template Purpose
This clinical statement represents acts of care which cannot be categorized as a "procedure" but whose immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient. Examples of these acts of care are a dressing change, teaching or feeding a patient or providing comfort measures.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.19"
2. **SHALL** conform to *Consol Procedure Activity Act* template (templateId: 2.16.840.1.113883.10.20.22.4.12)
3. **SHALL** contain exactly one [1..1] **text**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
4. **SHALL** contain exactly one [1..1] **code** (CONF:8293)
   a. contain zero or one [0..1] originalText. The originalText, if present, **SHALL** contain exactly one [1..1] reference such that it contain exactly one [1..1] @value such that it begin with a '#' and point to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
5. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:8314)
   a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:8316)
   b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:8315)
   c. Such entryRelationships Contains exactly one [1..1] **encounter**
      a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" , which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass)
      b. This encounter **SHALL** contain exactly one [1..1] **id**

         Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter.
      c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" , which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
   d. Such entryRelationships **SHALL** contain exactly one [1..1] **encounter** (CONF:8317)

   a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8318)
   b. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320)
   c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8319)
   d. This encounter **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:16849)
6. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:8314)
   a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:8316)
   b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CONF:8315)
   c. Such entryRelationships Contains exactly one [1..1] **act**, where its type is *Consol Instructions*
      a. Contains exactly one [1..1] *Consol Instructions* (templateId: 2.16.840.1.113883.10.20.22.4.20)
   d. Such entryRelationships **SHALL** contain exactly one [1..1] **encounter** (CONF:8317)
      a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8318)
      b. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320)
      c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8319)
      d. This encounter **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:16849)
7. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:8314)
   a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:8316)
   b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CONF:8315)
   c. Such entryRelationships Contains exactly one [1..1] **observation**, where its type is *Consol Indication*
      a. Contains exactly one [1..1] *Consol Indication* (templateId: 2.16.840.1.113883.10.20.22.4.19)
   d. Such entryRelationships **SHALL** contain exactly one [1..1] **encounter** (CONF:8317)
      a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8318)
      b. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320)
      c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8319)
      d. This encounter **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:16849)
8. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:8314)
   a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:8316)
   b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:8315)
   c. Such entryRelationships **SHALL** contain exactly one [1..1] **encounter** (CONF:8317)
      a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8318)
      b. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320)
      c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8319)
      d. This encounter **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:16849)
   d. Such entryRelationships Contains exactly one [1..1] **substanceAdministration**, where its type is *Consol Medication Activity*

   a. Contains exactly one [1..1] *Consol Medication Activity* (templateId: 2.16.840.1.113883.10.20.22.4.16)

9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:8314)
   a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:8316)
   b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:8315)
   c. Such entryRelationships Contains exactly one [1..1] **observation**, where its type is *Consol Procedure Activity Observation*
      a. Contains exactly one [1..1] *Consol Procedure Activity Observation* (templateId: 2.16.840.1.113883.10.20.22.4.13)
   d. Such entryRelationships **SHALL** contain exactly one [1..1] **encounter** (CONF:8317)
      a. This encounter **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:8318)
      b. This encounter **SHALL** contain exactly one [1..1] **id** (CONF:8320)
      c. This encounter **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:8319)
      d. This encounter **MAY** satisfy: Set the encounter ID to the ID of an encounter in another section to signify they are the same encounter. (CONF:16849)

Procedure Activity Act example

```
<act xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-
org:v3" classCode="ACT">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.19"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.12"/>
  <id root="MDHT" extension="2029092233"/>
  <code code="1437599817"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <priorityCode codeSystem="2.16.840.1.113883.5.7"
 codeSystemName="ActPriority"/>
  <entryRelationship typeCode="COMP" inversionInd="true">
    <encounter classCode="ENC" moodCode="EVN">
      <id root="MDHT" extension="1330127697"/>
    </encounter>
  </entryRelationship>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <act>
      <code code="361734170"/>
      <text>Text Value</text>
    </act>
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <observation>
      <id root="MDHT" extension="1566217880"/>
      <code code="1598345040"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <value xsi:type="CD" code="846150765"/>
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <substanceAdministration>
      <id root="MDHT" extension="114994167"/>
```

```
      <code code="823297629"/>
      <text>Text Value</text>
      <statusCode code="completed"/>
      <repeatNumber value="1"/>
      <routeCode code="864381571"/>
      <approachSiteCode code="2076692188"/>
      <doseQuantity/>
      <rateQuantity/>
      <maxDoseQuantity/>
      <consumable/>
      <performer/>
      <precondition typeCode="PRCN"/>
    </substanceAdministration>
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <observation>
      <id root="MDHT" extension="255522448"/>
      <code code="786597714"/>
      <effectiveTime>
        <low value="2015"/>
        <high value="2015"/>
      </effectiveTime>
      <priorityCode code="1310215236"/>
      <methodCode code="2039390567"/>
      <targetSiteCode code="1971396129"/>
      <performer/>
      <entryRelationship typeCode="COMP" inversionInd="true"/>
    </observation>
  </entryRelationship>
</act>
```

Procedure Activity Procedure

[Procedure: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18`]

Template Design Relationships
This template is an adaptation of the IHE US Realm Procedure Activity Procedure template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose. This entry uses a more tightly constrained design. It is limited to only those procedures that match to a set of procedures defined, in a value set, to be relevant to hearing screening. The entry contains an id pointer to procedures within the procedure list which match the defined inclusion criteria

Template Purpose
The HPOC Procedure Activity Procedure template identifies the procedures within the procedure section that are relevant for Hearing Screening.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18"
2. **SHALL** conform to *Consol Procedure Activity Procedure* template (templateId: `2.16.840.1.113883.10.20.22.4.14`)
3. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
4. **SHALL** contain exactly one [1..1] **`id`** (CONF:7655)

- *references the id of the associated Procedure Activity Procedure where the conditional conformance statement for the code element of the Procedure Activity Procedure entry is true.*

5. **SHALL** contain exactly one [1..1] **code** (CONF:7656)
   a. contain zero or one [0..1] originalText. The originalText, if present, **SHALL** contain exactly one [1..1] reference such that it contain exactly one [1..1] @value such that it begin with a '#' and point to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
   b. **SHALL** satisfy: be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and or CPT-4 (CodeSystem: 2.16.840.1.113883.6.12) or ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4)
6. **SHALL** satisfy: CONDITIONAL For each Procedure Activity Procedure entry(templateId: 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18) in the Procedure Section where the code element has an @code that is present in Value Set

Procedure Activity Procedure example

```
<procedure xmlns="urn:hl7-org:v3" classCode="PROC">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.18"/>
  <templateId root="2.16.840.1.113883.10.20.22.4.14"/>
  <id root="MDHT" extension="605877090"/>
  <code code="1553625025"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <priorityCode codeSystem="2.16.840.1.113883.5.7"
 codeSystemName="ActPriority"/>
  <methodCode code="805220087"/>
  <targetSiteCode codeSystem="2.16.840.1.113883.6.96"
 codeSystemName="SNOMEDCT"/>
</procedure>
```

Reason Not Screened

[Act: templateId 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10]

Template Design Relationships
This template is a further constraint of the IHE UV Realm Reason Not Screened template. Machine readable entries associated with this template use US Realm vocabulary constraints established for this purpose.

Template Purpose
This template documents the reason why hearing screening was not performed.

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10"
2. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
4. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *VS_ReasonNotScreened* 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.11 **STATIC** 1
5. **SHALL** contain exactly one [1..1] **text**

   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)

Reason Not Screened example

```
<act xmlns="urn:hl7-org:v3" classCode="ACT" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.2.4.10"/>
  <id root="MDHT" extension="1092637089"/>
  <code codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT"/>
  <text>Text Value</text>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
</act>
```

Risk Indicator For Hearing Loss Observation

[Observation: templateId `1.3.6.1.4.1.19376.1.7.3.1.1.26.1.4.15`]

Template Design Relationships
This template is an adaptation and generalization of the IHE US Realm Risk Indicator for Hearing Loss Observation template. A Concept Domain is added to express value set binding within a realm-specific implementation for the code(s) to represent the types of reasons for no assessable result to be returned when a baby is screened.

Template Purpose
This template records a set of hearing related risks which may be assessed. Each clinical statement indicates if a particular risk is present or not. Risks that are not assessed do not have to be included. (Use of nullFlavors to express exceptional cases for the risk not being asses will be considered in a future version.)

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.26.1.4.15"
2. **SHALL** contain exactly one [1..1] **`@classCode`**=`"OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**=`"EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
4. **SHALL** contain exactly one [1..1] **`code`**
5. **SHALL** contain exactly one [1..1] **`text`**
   a. **SHALL** satisfy: contains exactly one [1..1] reference such that it contains exactly one [1..1] @value such that it begins with a '#' and points to its corresponding narrative (using the approach defined in CDA Release 2, Section 4.3.5.1)
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**=`"completed"` *Completed* (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`)
7. **SHALL** contain exactly one [1..1] **`value`** with @xsi:type="CD"
8. **SHALL** contain at least one [1..*] **`id`**
9. **SHOULD** contain zero or one [0..1] **`effectiveTime`**

Risk Indicator For Hearing Loss Observation example

```
<observation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="urn:hl7-org:v3" classCode="OBS" moodCode="EVN">
  <templateId root="1.3.6.1.4.1.19376.1.7.3.1.1.26.1.4.15"/>
  <id root="MDHT" extension="675495605"/>
```

```
  <code code="1010230502"/>
  <text>Text Value</text>
  <statusCode code="completed"/>
  <effectiveTime>
    <low value="2015"/>
    <high value="2015"/>
  </effectiveTime>
  <value xsi:type="CD" code="403365309"/>
</observation>
```

Chapter 5

OTHER CLASSES

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.

Chapter 6

VALUE SETS

Topics:

- *VS H Po C Activity Act*
- *VS H Po C Activity Encounter*
- *VS H Po C Activity Non-Medicinal Supply*
- *VS H Po C Activity Observation*
- *VS H Po C Activity Procedure*
- *VS H Po C Activity Substance Administration*
- *VS H Po C Encounter Type*
- *VS H Po C Instructions*
- *VS H Po C Problem Observations*
- *VS H Po C Service Event*
- *VS Hearing Screening Methods*
- *VS Hearing Screening Outcome Observation Values*
- *VS Hearing Screening Target Sites*
- *VS Hearing Screening Test Result Values*
- *VS Reason Not Screened*
- *VS Risk Factors For Hearing*

The following tables summarize the value sets used in this Implementation Guide.

VS H Po C Activity Act

Value Set	VS_HPoCActivityAct - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.4
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of care acts (activities that are not observations or procedures) used in a Hearing Plan of Care. For example, these are actions that a patient or care giver can perform.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.4.001	SNOMEDCT	Participate in parental support group
IHE-TSC-7.3.1.1.2.5.4.002	SNOMEDCT	Attend education for parents on newborn developmental issues.
IHE-TSC-7.3.1.1.2.5.4.003	SNOMEDCT	Implement home safety improvements
IHE-TSC-7.3.1.1.2.5.5.003	SNOMEDCT	Conduct developmental surveillance to identify any parental concerns

VS H Po C Activity Encounter

Value Set	VS_HPoCActivityEncounter - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.5
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of care encounters used in a Hearing Plan of Care.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.5.001	SNOMEDCT	Visit with Primary Care Physician
IHE-TSC-7.3.1.1.2.5.5.002	SNOMEDCT	Follow-up with Primary Care Provider
IHE-TSC-7.3.1.1.2.5.5.003	SNOMEDCT	Referral to audiologist
IHE-TSC-7.3.1.1.2.5.5.004	SNOMEDCT	Referral to Geneticist
IHE-TSC-7.3.1.1.2.5.5.005	SNOMEDCT	Referral to Early Intervention Specialist
IHE-TSC-7.3.1.1.2.5.5.006	SNOMEDCT	Referral to Ear Nose and Throat Specialist

VS H Po C Activity Non- Medicinal Supply

Value Set	VS_HPoCActivityNon-MedicinalSupply - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.9
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of care non-medicinal supply act used in a Hearing Plan of Care. This would cover supply of implantable devices and other medical devices used for patient care.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.9.001	SNOMEDCT	Hearing Aid
IHE-TSC-7.3.1.1.2.5.9.002	SNOMEDCT	Assistive Listening Device
IHE-TSC-7.3.1.1.2.5.9.003	SNOMEDCT	FM system
IHE-TSC-7.3.1.1.2.5.9.004	SNOMEDCT	Cochlear implant

VS H Po C Activity Observation

Value Set	VS_HPoCActivityObservation - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.6
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of observation (diagnostic test) activities used in a Hearing Plan of Care.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.6.001	SNOMEDCT	Tympanogram Test
IHE-TSC-7.3.1.1.2.5.6.002	SNOMEDCT	Otoacousic emissions Test
IHE-TSC-7.3.1.1.2.5.6.003	SNOMEDCT	Auditory Brainstem Response Test
IHE-TSC-7.3.1.1.2.5.6.004	SNOMEDCT	Acoustic Immitance Test
IHE-TSC-7.3.1.1.2.5.6.005	SNOMEDCT	Auditory Brainstem Response with sedation
IHE-TSC-7.3.1.1.2.5.6.006	SNOMEDCT	Developmental assessment
IHE-TSC-7.3.1.1.2.5.6.007	SNOMEDCT	Genetic Testing and Counseling
IHE-TSC-7.3.1.1.2.5.6.008	SNOMEDCT	Speech and Language Assessment
IHE-TSC-7.3.1.1.2.5.6.009	SNOMEDCT	MRI

VS H Po C Activity Procedure

Value Set	VS_HPoCActivityProcedure - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.7
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of care procedures (activities to treat a condition and alter the patient's health status) included in a Hearing Plan of Care.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.7.001	SNOMEDCT	Cochlear implant
IHE-TSC-7.3.1.1.2.5.7.002	SNOMEDCT	Reconstruction to resolve atresia
IHE-TSC-7.3.1.1.2.5.7.003	SNOMEDCT	Treatment for otitis media
IHE-TSC-7.3.1.1.2.5.7.004	SNOMEDCT	Cleft Lip/Palate Repair
IHE-TSC-7.3.1.1.2.5.7.005	SNOMEDCT	Myringotomy and PE tube placement

VS H Po C Activity Substance Administration

Value Set	VS_HPoCActivitySubstanceAdministration - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.8
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing plan of care substance administration act used in a Hearing Plan of Care.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.8.001	SNOMEDCT	Thyroid Supplement
IHE-TSC-7.3.1.1.2.5.8.002	SNOMEDCT	Vitamin Supplement
IHE-TSC-7.3.1.1.2.5.8.003	SNOMEDCT	Amoxicillin
IHE-TSC-7.3.1.1.2.5.8.004	SNOMEDCT	Antibiotic

VS H Po C Encounter Type

Value Set	VS_HPoCEncounterType - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.1
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded encounter types where a hearing plan of care would get created or updated. These are going to be the same concepts as those used in the VS_HPoCActivityEncounters.

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.1.001	SNOMEDCT	Visit with Primary Care Physician
IHE-TSC-7.3.1.1.2.5.1.002	SNOMEDCT	Follow-up with Primary Care Provider
IHE-TSC-7.3.1.1.2.5.1.003	SNOMEDCT	Referral to audiologist
IHE-TSC-7.3.1.1.2.5.1.004	SNOMEDCT	Referral to Geneticist
IHE-TSC-7.3.1.1.2.5.1.005	SNOMEDCT	Referral to Early Intervention Specialist
IHE-TSC-7.3.1.1.2.5.1.006	SNOMEDCT	Referral to Ear Nose and Throat Specialist

VS H Po C Instructions

Value Set	VS_HPoCInstructions - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.3
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.3.001	SNOMEDCT	Conduct additional hearing screening if there is parental concern for speech and language development

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.3.002	SNOMEDCT	Aggressively treat the middle ear disease if it is detected.
IHE-TSC-7.3.1.1.2.5.3.003	SNOMEDCT	Refer to specialist if vision screening indicates to refer
IHE-TSC-7.3.1.1.2.5.3.004	SNOMEDCT	Refer to specialist if ongoing developmental screening indicates to refer

VS H Po C Problem Observations

Value Set	VS_HPoCProblemObservations - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.17
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the problems considered relevant for hearing care planning. The values below need to include a qualifier that indicates the test produced a "fail", so the total concept is a "failed xyz Test". (This value set it not a complete set of codes. The value set needs to be defined in a value set repository and then referenced by URL from this profile.)

Code	Code System	Print Name
83330001	SNOMEDCT	Patent ductus arteriosus (disorder)
253686000	SNOMEDCT	Patent ductus arteriosus - persisting type (disorder)
253685001	SNOMEDCT	Patent ductus arteriosus - delayed closure (disorder)
125963005	SNOMEDCT	Patent ductus arteriosus with left-to-right shunt (disorder)
22033007	SNOMEDCT	Fetal growth retardation (disorder)
181000119105	SNOMEDCT	Fetal growth retardation, antenatal (disorder)
276606009	SNOMEDCT	Asymmetrical growth retardation (disorder)
276607000	SNOMEDCT	Symmetrical growth retardation (disorder)
234350007	SNOMEDCT	Neonatal anemia (disorder)
47100003	SNOMEDCT	Anemia of prematurity (disorder)
359007	SNOMEDCT	Kernicterus due to isoimmunization (disorder)
276579007	SNOMEDCT	Late anemia of newborn (disorder)
276578004	SNOMEDCT	Physiological anemia of infancy (disorder)
387702001	SNOMEDCT	Perinatal anemia (disorder)
67569000	SNOMEDCT	Bronchopulmonary dysplasia of newborn (disorder)
17190001	SNOMEDCT	Congenital diaphragmatic hernia (disorder)
447821002	SNOMEDCT	Congenital posterolateral diaphragmatic hernia (disorder)
204271000	SNOMEDCT	Preauricular sinus (disorder)
18820007	SNOMEDCT	Preauricular cyst (disorder)
205616004	SNOMEDCT	Trisomy 21- mitotic nondisjunction mosaicism (disorder)
80281008	SNOMEDCT	Cleft lip (disorder)

Code	Code System	Print Name
304068004	SNOMEDCT	Bilateral cleft lip (disorder)

VS H Po C Service Event

Value Set	VS_HPoCServiceEvent - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.2
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded service acts for a hearing plan of care. A plan can be created, updated (where a plan is modified), or reconciled (where a plan is transformed to include content from other plans).

Code	Code System	Print Name
IHE-TSC-7.3.1.1.2.5.2.001	SNOMEDCT	HPoC Created
IHE-TSC-7.3.1.1.2.5.2.002	SNOMEDCT	HPoC Appended
IHE-TSC-7.3.1.1.2.5.2.003	SNOMEDCT	HPoC Transformed

VS Hearing Screening Methods

Value Set	VS_HearingScreeningMethods - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.13
Code System	LOINC - 2.16.840.1.113883.6.1
Version	1
Definition	This value set holds a list of coded concepts representing the possible methods for performing hearing screening.

Code	Code System	Print Name
LA10387-1	LOINC	Automated auditory brainstem response (AABR)
LA10388-9	LOINC	Auditory brain stem response (ABR)
LA10389-7	LOINC	Otoacoustic emissions (OAE)
LA10390-5	LOINC	Distortion product otoacoustic emissions (DPOAE)
LA10391-3	LOINC	Transient otoacoustic emissions (TOAE)
LA12406-7	LOINC	Methodology unknown

VS Hearing Screening Outcome Observation Values

Value Set	VS_HearingScreeningOutcomeObservationValues - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.10
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the possible outcome values for a hearing screening panel.

Code	Code System	Print Name
164059009	SNOMEDCT	Pass
183924009	SNOMEDCT	Refer
262008008	SNOMEDCT	Not Performed

VS Hearing Screening Target Sites

Value Set	VS_HearingScreeningTargetSites - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.12
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the possible body sites involved in hearing screening.

Code	Code System	Print Name
89644007	SNOMEDCT	Left Ear
25577004	SNOMEDCT	Right Ear

VS Hearing Screening Test Result Values

Value Set	VS_HearingScreeningTestResultValues - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.14
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the possible result values produced by a device when performing hearing screening. If a test was not performed by the device, it does not send back a value. The code for "attempted, but unsuccessful-technical fail" indicates that the test was performed, but the value measured by the device could not be determined to be a clear pass or fail (refer).

Code	Code System	Print Name
164059009	SNOMEDCT	Pass
183924009	SNOMEDCT	Refer
103709008	SNOMEDCT	Attempted, but unsuccessful - technical fail

VS Reason Not Screened

Value Set	VS_ReasonNotScreened - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.11
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the possible reasons for not performing hearing screening.

Code	Code System	Print Name
410534003	SNOMEDCT	Not performed, medical exclusion - not indicated
183949008	SNOMEDCT	Assessment examination
183945002	SNOMEDCT	Procedure refused - religion (situation)
183948000	SNOMEDCT	Refused procedure - parent's wish (situation)
397709008	SNOMEDCT	Patient died (finding)

VS Risk Factors For Hearing

Value Set	VS_RiskFactorsForHearing - 1.3.6.1.4.1.19376.1.7.3.1.1.26.2.5.16
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Definition	This value set holds a list of coded concepts representing the risk factors considered during hearing screening.

Code	Code System	Print Name
439750006	SNOMEDCT	Family Hx of Hearing loss
441899004	SNOMEDCT	History of therapy with ototoxic medication (situation)
276687002	SNOMEDCT	Conjugated hyperbilirubinemia in infancy (disorder)
281610001	SNOMEDCT	Neonatal Hyperbilirubinemia (disorder)
281612009	SNOMEDCT	Neonatal conjugated hyperbilirubinemia (disorder)
281611002	SNOMEDCT	Neonatal unconjugated hyperbilirubinemia (disorder)
206331005	SNOMEDCT	Infections specific to perinatal period (disorder)
206005002	SNOMEDCT	Fetus or neonate affected by maternal infection (disorder)
80690008	SNOMEDCT	Degenerative disease of the central nervous system (disorder)
178280004	SNOMEDCT	Postnatal infection (disorder)
312972009	SNOMEDCT	Neonatal extracranial head trauma (disorder)
161653008	SNOMEDCT	History of - chemotherapy (situation)
LA137-2	LOINC	None
LA12667-4	LOINC	Caregiver concern about hearing
LA12669-0	LOINC	ICU stay > 5 days
LA12670-8	LOINC	ECMO
LA12671-6	LOINC	Assisted ventilation
LA12673-2	LOINC	Exchange transfusion for Hyperbilirubinemia
LA12674-0	LOINC	In utero infection(s)
LA12675-7	LOINC	Craniofacial anomalies
LA12681-5	LOINC	Physical findings of syndromes that include hearing loss

Code	Code System	Print Name
LA12676-5	LOINC	Syndromes associated with hearing loss
LA12677-3	LOINC	Neurodegenerative disorders
LA12678-1	LOINC	Postnatal infections

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