

## 3 ENTRY

### 3.1 Assessment Scale Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01 (open) ]

An assessment scale is a collection of observations that together can yield a calculated or non-calculated summary evaluation of a one or more conditions. Examples include the Braden Scale (assesses pressure ulcer risk), APACHE Score (estimates mortality in critically ill patients), Mini-Mental Status Exam (assesses cognitive function), APGAR Score (assesses the health of a newborn), Glasgow Coma Scale (assesses coma and impaired consciousness), and WE CARE (Well Child Care, Evaluation, Community Resources, Advocacy, Referral, Education - a clinic-based screening and referral system developed for pediatric settings).

When an Assessment Scale Observation is contained in a Problem Observation, a Social History Observation or a Procedure instance that is Social Determinant of Health focused, that Assessment scale **MAY** contain assessment scale observations that represent question and answer pairs from SDOH screening instruments that are represented in LOINC. Note that guidance on the use of LOINC in assessment scales already exists in Assessment Scale Observation constraints and Assessment Scale Supporting Observations constraints.

**Table 6: Assessment Scale Observation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.69:2022-06-01)					
@classCode	1..1	SHALL		<a href="#">4515-14434</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">4515-14435</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">4515-14436</a>	
@root	1..1	SHALL		<a href="#">4515-14437</a>	2.16.840.1.113883.10.20.22.4.69
@extension	1..1	SHALL		<a href="#">4515-33037</a>	2022-06-01
id	1..*	SHALL		<a href="#">4515-14438</a>	
code	1..1	SHALL		<a href="#">4515-14439</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
derivationExpr	0..1	MAY		<a href="#">4515-14637</a>	
statusCode	1..1	SHALL		<a href="#">4515-14444</a>	
@code	1..1	SHALL		<a href="#">4515-19088</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">4515-14445</a>	

XPath	Card.	Verb	Data Type	CONF#	Value
value	1..1	SHALL		<a href="#">4515-14450</a>	
interpretationCode	0..*	MAY		<a href="#">4515-14459</a>	
translation	0..*	MAY		<a href="#">4515-14888</a>	
author	0..*	MAY		<a href="#">4515-14460</a>	
entryRelationship	0..*	SHOULD		<a href="#">4515-14451</a>	
@typeCode	1..1	SHALL		<a href="#">4515-16741</a>	COMP
observation	1..1	SHALL		<a href="#">4515-16742</a>	Assessment Scale Supporting Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.86
referenceRange	0..*	MAY		<a href="#">4515-16799</a>	
observationRange	1..1	SHALL		<a href="#">4515-16800</a>	
text	0..1	SHOULD		<a href="#">4515-16801</a>	
reference	0..1	SHOULD		<a href="#">4515-16802</a>	
@value	0..1	MAY		<a href="#">4515-16803</a>	

16. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-14434).
  17. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-14435).
  18. **SHALL** contain exactly one [1..1] **templateId** (CONF:4515-14436) such that it
    - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.69"** (CONF:4515-14437).
    - b. **SHALL** contain exactly one [1..1] **@extension="2022-06-01"** (CONF:4515-33037).
  19. **SHALL** contain at least one [1..\*] **id** (CONF:4515-14438).
  20. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) **DYNAMIC** (CONF:4515-14439).
- Such derivation expression can contain a text calculation of how the components total up to the summed score
21. **MAY** contain zero or one [0..1] **derivationExpr** (CONF:4515-14637).
  22. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-14444).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:4515-19088).

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)

- 23. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:4515-14445).
- 24. **SHALL** contain exactly one [1..1] **value** (CONF:4515-14450).
- 25. **MAY** contain zero or more [0..\*] **interpretationCode** (CONF:4515-14459).
  - a. The interpretationCode, if present, **MAY** contain zero or more [0..\*] **translation** (CONF:4515-14888).
- 26. **MAY** contain zero or more [0..\*] **author** (CONF:4515-14460).
- 27. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:4515-14451) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" has component (CONF:4515-16741).
  - b. **SHALL** contain exactly one [1..1] Assessment Scale Supporting Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.86) (CONF:4515-16742).
- 28. **MAY** contain zero or more [0..\*] **referenceRange** (CONF:4515-16799).
  - a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:4515-16800).

The text may contain a description of the scale (e.g., for a Pain Scale 1 to 10: 1 to 3 = little pain, 4 to 7= moderate pain, 8 to 10 = severe pain)

- i. This observationRange **SHOULD** contain zero or one [0..1] **text** (CONF:4515-16801).
  - 1. The text, if present, **SHOULD** contain zero or one [0..1] **reference** (CONF:4515-16802).
    - a. The reference, if present, **MAY** contain zero or one [0..1] @value (CONF:4515-16803).
      - i. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:4515-16804).

**Figure 4: Assessment Scale Observation Example**

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.69" extension="2022-06-01"/>
  <id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>
  <code code="54614-3"
    displayName="Brief Interview for Mental Status"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <derivationExpr>Text description of the calculation</derivationExpr>
  <statusCode code="completed"/>
  <effectiveTime value="20120214"/>
  <!-- Summed score of the component values -->
  <value xsi:type="INT" value="7"/>
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.86"/>

      . . .

    </entryRelationship>
</observation>
```

**Figure 5: Assessment Scale Observation - Hunger Vital Signs Example**

```

<entry>
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.69" extension="2022-06-01"/>
    <id root="c6b5a04b-2bf4-49d1-8336-636a3813df0b"/>
    <code code="88121-9" displayName="Hunger Vital Signs"
          codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
    <derivationExpr>Text description of the calculation</derivationExpr>
    <statusCode code="completed"/>
    <effectiveTime value="20120214"/>
    <!-- Summed score of the component values -->
    <value xsi:type="INT" value="2"/>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88122-7" displayName="(I/We) worried whether (my/our) food
would run out before (I/we) got money to buy more"
              codeSystem="2.16.840.1.113883.6.1"
              codeSystemName="SNOMED"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA28397-0" displayName="Often true"
              codeSystem="2.16.840.1.113883.6.1">
          <translation code="1" codeSystem="2.16.840.1.113883.6.1"
            codeSystemName="LOINC"/>
        </value>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88123-5" displayName="Within the past 12Mo the food we bought
just didn't last and we didn't have money to get more"
              codeSystem="2.16.840.1.113883.6.1"
              codeSystemName="SNOMED"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA28397-0" displayName="Often true"
              codeSystem="2.16.840.1.113883.6.1">
          <translation code="1" codeSystem="2.16.840.1.113883.6.1"
            codeSystemName="LOINC"/>
        </value>
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.86"/>
        <id root="f4dce790-8328-11db-9fe1-0800200c9a44"/>
        <code code="88124-3" displayName="Food insecurity risk [HVS]"
              codeSystem="2.16.840.1.113883.6.1"
              codeSystemName="SNOMED"/>
        <statusCode code="completed"/>
        <value xsi:type="CD" code="LA19952-3" displayName="At risk"
              codeSystem="2.16.840.1.113883.6.1"/>
      </observation>
    </entryRelationship>
  </observation>
</entry>

```

```
</observation>
</entry>
```

## 3.2 Assessment Scale Supporting Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01 (open) ]

An Assessment Scale Supporting Observation represents the components of a scale used in an Assessment Scale Observation. The individual parts that make up the component may be a group of physical, cognitive, functional status, social observations or answers to questions.

**Table 7: Assessment Scale Supporting Observation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.86:2022-06-01)					
@classCode	1..1	SHALL		<a href="#">4515-16715</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">4515-16716</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">4515-16722</a>	
@root	1..1	SHALL		<a href="#">4515-16723</a>	2.16.840.1.113883.10.20.22.4.86
@extension	1..1	SHALL		<a href="#">4515-33036</a>	2022-06-01
id	1..*	SHALL		<a href="#">4515-16724</a>	
code	1..1	SHALL		<a href="#">4515-19178</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
statusCode	1..1	SHALL		<a href="#">4515-16720</a>	
@code	1..1	SHALL		<a href="#">4515-19089</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
value	1..*	SHALL		<a href="#">4515-16754</a>	

29. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-16715).
30. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4515-16716).
31. **SHALL** contain exactly one [1..1] templateId (CONF:4515-16722) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.86" (CONF:4515-16723).
  - b. **SHALL** contain exactly one [1..1] @extension="2022-06-01" (CONF:4515-33036).
32. **SHALL** contain at least one [1..\*] id (CONF:4515-16724).