Figure 51: Result Observation (V4) Example

```xml
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2023-05-01" />
    <id root="7c0704bb-9c40-41b5-9c7d-26b2d59e234f" />
    <code code="20570-8" displayName="Hematocrit" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" />
    <statusCode code="completed" />
    <effectiveTime value="200803190830-0800" />
    <value xsi:type="PQ" value="35.3" unit="%" />
    <interpretationCode code="L" codeSystem="2.16.840.1.113883.5.83" />
    <author>
        <time value="200803190830-0800" />
        <assignedAuthor>
            <id extension="333444444" root="1.1.1.1.1.1.1.4" />
            <addr>
                <streetAddressLine>1017 Health Drive</streetAddressLine>
                <city>Portland</city>
                <state>OR</state>
                <postalCode>99123</postalCode>
                <country>US</country>
            </addr>
            <telecom use="WP" value="tel:+1(555)555-1017" />
            <assignedPerson>
                <name>
                    <given>William</given>
                    <given qualifier="CL">Bill</given>
                    <family>Beaker</family>
                </name>
            </assignedPerson>
            <representedOrganization>
                <name>Good Health Laboratory</name>
            </representedOrganization>
        </assignedAuthor>
    </author>
    <referenceRange>
        <observationRange>
            <text>Low</text>
            <value xsi:type="IVL_PQ">
                <low value="34.9" unit="%" />
                <high value="44.5" unit="%" />
            </value>
            <interpretationCode code="L" codeSystem="2.16.840.1.113883.5.83"/>
        </observationRange>
    </referenceRange>
</observation>
```

3.23 Result Organizer (V4)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01
(open)]

This template provides a mechanism for grouping result observations. It contains information
applicable to all of the contained result observations. The Result Organizer code categorizes the

contained results into one of several commonly accepted values (e.g., "Hematology", "Chemistry", "Nuclear Medicine").

If any Result Observation within the organizer has a statusCode of "active", the Result Organizer must also have a statusCode of "active".

Table 79: Result Organizer (V4) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.1:2023-05-01)					
@classCode	1..1	SHALL		4537-7121	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass)
@moodCode	1..1	SHALL		4537-7122	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		4537-7126	
@root	1..1	SHALL		4537-9134	2.16.840.1.113883.10.20.22.4.1
@extension	1..1	SHALL		4537-32588	2023-05-01
id	1..*	SHALL		4537-7127	
code	1..1	SHALL		4537-7128	
statusCode	1..1	SHALL		4537-7123	
@code	1..1	SHALL		4537-14848	urn:oid:2.16.840.1.113883.11.20.9.39 (Result Status)
effectiveTime	0..1	MAY		4537-31865	
low	1..1	SHALL		4537-32488	
high	1..1	SHALL		4537-32489	
specimen	0..*	MAY		4537-32615	
specimenRole	1..1	SHALL		4537-32616	
specimenPlayingEntity	1..1	SHALL		4537-32617	
code	1..1	SHALL		4537-32618	urn:oid:2.16.840.1.113762.1.4.1099.54 (Specimen type)
author	0..*	SHOULD		4537-31149	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119
component	1..*	SHALL		4537-7124	
observation	1..1	SHALL		4537-14850	Result Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01

1. **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4537-7121).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:4537-7122).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:4537-7126) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:4537-9134).
   b. **SHALL** contain exactly one [1..1] **@extension**="2023-05-01" (CONF:4537-32588).
4. **SHALL** contain at least one [1..*] **id** (CONF:4537-7127).
5. **SHALL** contain exactly one [1..1] **code** (CONF:4537-7128).
   a. **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) **OR** SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT (codeSystem 2.16.840.1.113883.6.12) (CONF:4537-19218).
   b. Laboratory results **SHOULD** be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or other constrained terminology named by the US Department of Health and Human Services Office of National Coordinator or other federal agency (CONF:4537-19219).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4537-7123).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet **Result Status** urn:oid:2.16.840.1.113883.11.20.9.39 **STATIC** (CONF:4537-14848).
7. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:4537-31865).
   Note: The effectiveTime is an interval that spans the effectiveTimes of the contained result observations. Because all contained result observations have a required time stamp, it is not required that this effectiveTime be populated.
   a. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **low** (CONF:4537-32488).
   b. The effectiveTime, if present, **SHALL** contain exactly one [1..1] **high** (CONF:4537-32489).

When an organizer is for laboratory, observations are expected to include the specimen participant. The specimen included at specimenPlayingEntity/code must be consistent with the observation/code.

8. **MAY** contain zero or more [0..*] **specimen** (CONF:4537-32615).
   a. The specimen, if present, **SHALL** contain exactly one [1..1] **specimenRole** (CONF:4537-32616).
      i. This specimenRole **SHALL** contain exactly one [1..1] **specimenPlayingEntity** (CONF:4537-32617).
         1. This specimenPlayingEntity **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet **Specimen type** urn:oid:2.16.840.1.113762.1.4.1099.54 **DYNAMIC** (CONF:4537-32618).
9. **SHOULD** contain zero or more [0..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4537-31149).
10. **SHALL** contain at least one [1..*] **component** (CONF:4537-7124) such that it

a. **SHALL** contain exactly one [1..1] Result Observation (V3) `(identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.2:2015-08-01)` (CONF:4537-14850).

Figure 52: Result Organizer (V4) Example

```
<organizer classCode="BATTERY" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.1" extension="2023-05-01" />
    <id root="7d5a02b0-67a4-11db-bd13-0800200c9a66" />
    <code code="57021-8" displayName="CBC W Auto Differential panel in Blood"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
    <statusCode code="completed" />
    <effectiveTime>
        <low value="200803190830-0800" />
        <high value="200803190830-0800" />
    </effectiveTime>
    <author>
        . . .
  </author>
    <component>
        <observation classCode="OBS" moodCode="EVN">
            <!-- ** Result observation ** -->
            <templateId root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01" />
            . . .


        </observation>
    </component>
</organizer>
```

3.24 Section Time Range Observation

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-
01 (open)]
```

This observation represents the date and time range of the information contained in a section. It is an optional entry and may be used in any section.