

# Negation in Bonnie FHIR

Bonnie FHIR is starting to support negation rationale! However, negation rationale in Bonnie FHIR is different from Bonnie QDM. This document will explain how to create negation in Bonnie FHIR. This document will also provide an example of how to support negation rationale for ServiceRequested.

1. Similar to Bonnie QDM, your first step to adding a negation rationale for ServiceRequested would be to add a ServiceRequested card to your patient history

The screenshot displays the Bonnie FHIR interface. On the left, there is a sidebar with 'ELEMENTS' and 'PATIENT HISTORY' tabs. Under 'ELEMENTS', several 'ServiceRequest' cards are listed, including 'Comfort Measures', 'Venous foot pumps (VFP)', 'Intermittent pneumatic compression devices (IPC)', and 'Graduated compression stockings (GCS)'. The 'PATIENT HISTORY' tab is active, showing a card for 'Care Provision: ServiceRequest: Comfort Measures'. The card details include: FHIR ID: comfort-measures-be93, AUTHORED ON: 09/21/2019 8:00 AM, and CODES: SNOMEDCT: 133918004. Below the card, there are sections for ATTRIBUTES, EXTENSIONS, and MODIFIER EXTENSIONS. On the right, the 'CQL Calculation Results' panel shows 'IPP 0, DENOM 0, NUMER 0, DENEX 0'. A 'SHOW ALL RESULTS' button is visible. Below this, a dropdown menu for 'INITIAL POPULATION' is open, showing a definition: 'define "Initial Population": "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"'. A 'SHOW RESULT' button is also present. At the bottom, a 'DENOMINATOR' dropdown is open, showing a definition: 'define "Denominator": "Initial Population"'. A mouse cursor is pointing at the 'DENOMINATOR' dropdown.

2. Unlike Bonnie QDM, Bonnie FHIR does not have the Not Performed Checkbox. To specify the attributes needed to complete the negation, you need to just add them via the timing section, attribute section, extension section, and modifier extension sections.
3. For ServiceRequested, you will need to enter AuthoredOn. That is a default timing already specified when ServiceRequested is added. Make sure you update the time if needed.
4. You also need to set doNotPreform to true. This can be accomplished in the attribute section. Select doNotPreform, it will default to true, then add the attribute.

**ELEMENTS**

- CARE PROVISION
- ServiceRequest Comfort Measures
- ServiceRequest Venous foot pumps (VFP)
- ServiceRequest Intermittent pneumatic compression devices (IPC)
- ServiceRequest Graduated compression stockings (GCS)
- CLINICAL SU... >

**PATIENT HISTORY**

Care Provision: ServiceRequest: Comfort Measures

FHIR ID: comfort-measures-be93

AUTHORED ON - authoredOn

09/21/2019 8:00 AM

**CODES**

SNOMEDCT: 133918004

Code System: --

**ATTRIBUTES**

doNotPerform: Boolean

True

**EXTENSIONS (Show)**

**MODIFIER EXTENSIONS (Show)**

**CQL Calculation Results:**

IPP 0, DENOM 0, NUMER 0, DENEX 0

SHOW ALL RESULTS

**INITIAL POPULATION:**

```
define "Initial Population":
  "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"
```

SHOW RESULT

**DENOMINATOR:**

```
define "Denominator":
  "Initial Population"
```

- Now, you will need to set the Status attribute to Completed. This can also be done in the attribute section. Select Status from the attribute drop down section. Then select RequestStatus and then Completed. Click the plus button to add Status.

**ELEMENTS**

- CARE PROVISION
- ServiceRequest Comfort Measures
- ServiceRequest Venous foot pumps (VFP)
- ServiceRequest Intermittent pneumatic compression devices (IPC)
- ServiceRequest Graduated compression stockings (GCS)
- CLINICAL SU... >

**PATIENT HISTORY**

Care Provision: ServiceRequest: Comfort Measures

FHIR ID: comfort-measures-be93

AUTHORED ON - authoredOn

09/21/2019 8:00 AM

**CODES**

SNOMEDCT: 133918004

Code System: --

**ATTRIBUTES**

doNotPerform: true

status: Code

RequestStatus

request-status: completed - Completed

**EXTENSIONS (Show)**

**MODIFIER EXTENSIONS (Show)**

**CQL Calculation Results:**

IPP 0, DENOM 0, NUMER 0, DENEX 0

SHOW ALL RESULTS

**INITIAL POPULATION:**

```
define "Initial Population":
  "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"
```

SHOW RESULT

**DENOMINATOR:**

```
define "Denominator":
  "Initial Population"
```

- Next, you will have to enter the ReasonRefused. This can be done in the extension section. First, expand the extensions section. Next, paste the ReasonRefused extension URL in the URL section. This extension is type codableConcept. Select that from the value type dropdown. Then enter your code for ReasonRefused. Finally, click the plus button to add the extension.

**ELEMENTS**

- CARE PROVISION
- ServiceRequest Comfort Measures
- ServiceRequest Venous foot pumps (VFP)
- ServiceRequest Intermittent pneumatic compression devices (IPC)
- ServiceRequest Graduated compression stockings (GCS)
- CLINICAL SU... >

**CODES**

SNOMEDCT: 133918004 ✕

Code System: -- +

**ATTRIBUTES**

doNotPerform: true ✕ status: completed ✕

--- EXTENSIONS (Hide)

**URL:**

http://hl7.org/fhir/us/qicore/StructureDefinition/qicore-doNotPerformReason

Source of the definition for the extension code - a logical name or a URL

**VALUE:**

CodeableConcept

Custom Code

Custom http://snomed.info/sc 105480006 +

--- MODIFIER EXTENSIONS (Show)

**V0**

CQL Calculation Results:

IPP 0, DENOM 0, NUMER 0, DENEX 0,

SHOW ALL RESULTS

**INITIAL POPULATION:**

```
define "Initial Population":
  "Encounter With Age Range and Without
  VTE Diagnosis or Obstetrical
  Conditions"
```

SHOW RESULT

**DENOMINATOR:**

```
define "Denominator":
  "Initial Population"
```

7. Finally, to complete the negation rationale for ServiceRequested you need to be able to add Code.extensions. Unfortunately, this piece is not something Bonnie FHIR currently supports. Please know we are diligently working towards support of this feature. We will make sure to let users know when support is available.