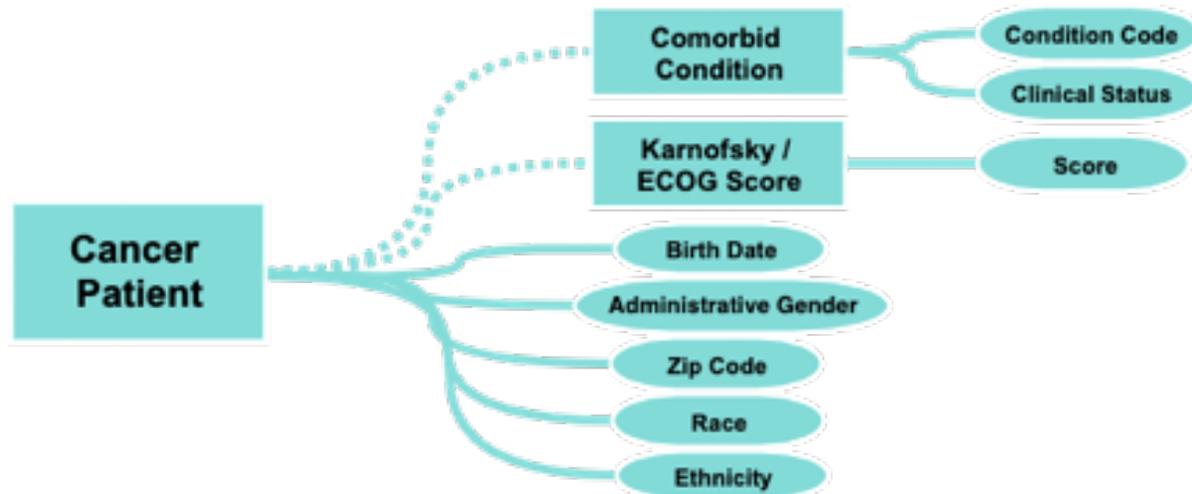


Patient Category



Overview

- Conditions and assessments that are non-specific to cancer but influence an oncology standard of care.

Profiles:

- CancerPatient
- ComorbidCondition
- ECOGPerformanceStatus
- KarnofskyPerformanceStatus

Profile: CancerPatient

<http://hl7.org/fhir/us/mcode/StructureDefinition-mcode-cancer-patient.html>

- **Base FHIR Resource:** Patient
- **Derived from:** USCorePatientProfile
- **Description:** A patient who has been diagnosed with or is receiving medical treatment for a malignant growth or tumor.
- **mCODE-specific Attribute Constraints:**
 - Deceased is *must support*
- **mCODE-specific Extensions:**
- **mCODE-specific Slices:** none
- **mCODE-specific ValueSets:** none

<http://hl7.org/fhir/us/mcode/StructureDefinition/mcode-cancer-patient>

7.6.1.1 Formal Views of Profile Content

Description of Profiles, Differentials, Snapshots and how the different presentations work.

Text Summary **Differential Table** Snapshot Table All

This structure is derived from USCorePatientProfile

Name	Flags	Card.	Type	Description & Constraints ?
Patient		0..*	USCorePatientProfile	
deceased[x]	S	0..1	boolean, dateTime	

Documentation for this format

Other Notes of Interest:

- Besides **deceased** being *must support*, the CancerPatient profile by itself does not indicate anything about a cancer patient. It is only relevant to other cancer-specific profiles related to mCODE.
- By itself, the implementer really wouldn't know the difference between this and any other EHR patient resource for the same person.

Profile: ComorbidCondition

<http://hl7.org/fhir/us/mcode/StructureDefinition-mcode-comorbid-condition.html>

- **Base FHIR Resource:** Condition
- **Derived From:** USCoreCondition
- **Description:** Refers to one or more diseases that occur along with another condition in the same person at the same time.
- **mCODE-specific Attribute Constraints:**
 - Category is fixed to SNOMED#398192003 "Co-morbid conditions (finding)"
 - bodySite is bound to SNOMEDCTBodyStructures (preferred)
- **mCODE-specific Extensions:**
 - mcode-laterality
- **mCODE-specific Slices:** none
- **mCODE-specific ValueSets:**
 - Code is bound to Comorbid Condition Value Set (required)

Other Notes of Interest:

- The **Comorbid Condition Value Set** aligns with the Elixhauser comorbidity scale.
- The binding of the SNOMEDCTBodyStructures Value Set to bodySite is "**preferred**" because organizations in the U.S. are licensed to use SNOMEDCT.
- The **mcode-laterality** extension was added to bodySite to indicate the side of the body location, if needed.
 - Lloyd McKenzie preferred us to use the BodyStructure resource instead of adding extensions to bodySite. However, it was determined that using BodyStructure "off the rack" would not be sufficient and extensions would need to be added. As a result, it was simpler to add the laterality extension to bodySite instead of requiring a separate resource for another profile.
 - <https://jira.hl7.org/browse/FHIR-24518>

Profile: ECOGPerformanceStatus

<http://hl7.org/fhir/us/mcode/StructureDefinition-mcode-ecog-performance-status.html>

- **Base FHIR Resource:** Observation
- **Derived From:** Observation
- **Description:** The Eastern Cooperative Oncology Group (ECOG) Performance status represents the patient's functional status and is used to determine their ability to tolerate therapies in serious illness, specifically for chemotherapy.
- **mCODE-specific Attribute Constraints:**
 - basedOn reference restricted to (ServiceRequest | CarePlan)
 - partOf reference restricted to (Procedure)
 - Status is *must support*
 - Category is bound to ObservationCategoryCodes (extensible)
 - Code is fixed to LOINC#89247-1 "ECOG Performance Status score" and is required, *must support*
 - Subject reference restricted to (US Core Patient Profile) and is required, *must support*
 - Effective[x] reference restricted to (effectiveDateTime | effectivePeriod) and is *must support*
 - Performer reference restricted to (Practitioner)
 - Value[x] is 1..1 and is restricted to valueInteger and is required, *must support*
 - Interpretation is bound to LOINC Answer List LL529-9 (required)
 - dataAbsentReason, bodySite, specimen, device, referenceRange, hasMember, and component are zeroed out
- **mCODE-specific Extensions:** none
- **mCODE-specific Slices:** none

<http://hl7.org/fhir/us/mcode/StructureDefinition/mcode-comorbid-condition>

7.10.1.1 **Formal Views of Profile Content**
Description of Profiles, Differentials, Snapshots and how the different presentations work.

Text Summary Differential Table Snapshot Table All

This structure is derived from USCoreCondition

Name	Flags	Card.	Type	Description & Constraints
Condition		0..*	USCoreCondition	
verificationStatus		1..1	CodeableConcept	
category		1..*	CodeableConcept	Required Pattern: At least the following Fixed Value: (complex)
coding		1..*	Coding	Code defined by a terminology system Fixed Value: (complex)
system		1..1	uri	Identity of the terminology system Fixed Value: http://snomed.info/sct Symbol in syntax defined by the system Fixed Value: 398192003
code		1..1	code	Binding: Comorbid Condition Value Set (required)
bodySite		0..*	CodeableConcept	Binding: SNOMEDCTBodyStructures (preferred)
mcode-laterality		0..1	CodeableConcept	Extension URL: http://hl7.org/fhir/us/mcode/StructureDefinition/mcode-laterality

Documentation for this format

<http://hl7.org/fhir/us/mcode/StructureDefinition/mcode-ecog-performance-status>

7.11.1.1 **Formal Views of Profile Content**
Description of Profiles, Differentials, Snapshots and how the different presentations work.

Text Summary Differential Table Snapshot Table All

This structure is derived from Observation

Name	Flags	Card.	Type	Description & Constraints
Observation		0..*	Observation	
basedOn		0..*	Reference(ServiceRequest CarePlan)	
partOf		0..*	Reference(Procedure)	
value[x]		1..1	code	Binding: ObservationCategoryCodes (extensible)
category		0..*	CodeableConcept	Required Pattern: At least the following Code defined by a terminology system
code		1..1	CodeableConcept	Fixed Value: (complex)
coding		1..*	Coding	Code defined by a terminology system
system		1..1	uri	Identity of the terminology system Fixed Value: http://loinc.org Symbol in syntax defined by the system Fixed Value: 89247-1
code		1..1	code	
subject		1..1	Reference(US Core Patient Profile)	
effective[x]		1..1		
effectiveDateTime			dateTime	
effectivePeriod			Period	
performer		0..*	Reference(Practitioner)	
value[x]		1..1	Integer	Slice: Unordered, Open by type: \$ths
valueInteger		1..1	integer	
dataAbsentReason		0..*		
interpretation		0..*	CodeableConcept	Binding: LOINC Answer List LL529-9 (required)
bodySite		0..*		
specimen		0..*		
device		0..*		
referenceRange		0..*		
hasMember		0..*		
component		0..*		

- **mCODE-specific ValueSets:** none

Other Notes of Interest:

- **Value[x]** is restricted to valueInteger because ECOG Scores are recorded as an integer between 0 and 5.
- **Interpretation** is bound to LOINC Answer List LL529-9 because this list contains codes and descriptions for the different ECOG scores
- The **basedOn, partOf, performer, subject, effective[x]** attributes are restricted so references that would not be logical for this profile are not allowed.
- **dataAbsentReason, bodySite, specimen, device, referenceRange, hasMember,** and **component** are zeroed out because including data elements for these attributes would not be logical for this profile.

Profile: KarnofskyPerformanceStatus

<http://hl7.org/fhir/us/mcode/StructureDefinition-mcode-karnofsky-performance-status.html>

- **Base FHIR Resource:** Observation
- **Derived From:** Observation
- **Description:** The Karnofsky Performance Status (KPS) is a tool used to measure a patient's functional status. It can be used to compare the effectiveness of different therapies and to help assess the prognosis of certain patients, such as those with certain cancers.
- **mCODE-specific Attribute Constraints:**
 - basedOn reference restricted to (ServiceRequest | CarePlan)
 - partOf reference restricted to (Procedure)
 - Status is *must support*
 - Category is bound to ObservationCategoryCodes (extensible)
 - Code is fixed to LOINC#89243-0 "Karnofsky Performance Status score" and is required, *must support*
 - Subject reference restricted to (US Core Patient Profile) and is required, *must support*
 - Effective[x] reference restricted to (effectiveDateTime | effectivePeriod) and is *must support*
 - Performer reference restricted to (Practitioner)
 - Value[x] is 1..1 and is restricted to valueInteger and is required, *must support*
 - Interpretation is bound to LOINC Answer List LL4986-7 (required)
 - dataAbsentReason, bodySite, specimen, device, referenceRange, hasMember, and component are zeroed out
- **mCODE-specific Extensions:** none
- **mCODE-specific Slices:** none
- **mCODE-specific ValueSets:** none

Other Notes of Interest:

- **Value[x]** is restricted to valueInteger because Karnofsky Scores are recorded as an integer between 0 to 100 in intervals of 10.
- **Interpretation** is bound to LOINC Answer List LL4986-7 because this list contains codes and descriptions for the different Karnofsky scores.
- The **basedOn, partOf, performer, subject, effective[x]** attributes are restricted so references that would not be logical for this profile are not allowed.

<http://hl7.org/fhir/us/mcode/StructureDefinition-mcode-karnofsky-performance-status>

7.14.1.1 Formal Views of Profile Content
Description of Profiles, Differentials, Snapshots and how the different presentations work.

Text Summary Differential Table Snapshot Table AS

This structure is derived from Observation

Name	Flags	Card.	Type	Description & Constraints
Observation		0..*	Observation	
basedOn		0..*	Reference(ServiceRequest CarePlan)	
partOf		0..*	Reference(Procedure)	
status		1..1	code	
category		0..*	CodeableConcept	Binding: ObservationCategoryCodes (extensible)
code		1..1	CodeableConcept	Required Pattern: At least the following
coding		1..*	Coding	Code defined by a terminology system
system		1..1	url	Fixed Value: (required) Identity of the terminology system
code		1..1	code	Fixed Value: http://loinc.org Symbol in system defined by the system
subject		1..1	Reference(US Core Patient Profile)	Fixed Value: 89243-0
effective[x]		0..1		
effectiveDateTime			dateTime	
effectivePeriod			Period	
performer		0..*	Reference(Practitioner)	Allow: Unordered, Open for type slices
value[x]		1..1	(Slice Definition)	
valueInteger		0..1	Integer	
dataAbsentReason		0..0		
interpretation		0..*	CodeableConcept	Binding: LOINC Answer List LL4986-7 (required)
bodySite		0..0		
specimen		0..0		
device		0..0		
referenceRange		0..0		
hasMember		0..0		
component		0..0		

- **dataAbsentReason, bodySite, specimen, device, reference Range, hasMember, and component** are zeroed out because including data elements for these attributes would not be logical for this profile.