· Introduce your audience to the profile. In your own words, state what it does and describe places where it can be used. [Max: 15.0]

Introduction:

The condition encounter diagnosis profile is an FHIR resource mainly used to provide information regarding the clinical encounter of the patient. This profile mainly sheds light on the interactions between the clinician and the patient. This profile contains numerous elements like Condition.clinicalStatus, Condition.bodySite, Condition.evidence.code and many more which help to explain the details of the diagnosed or specified condition. Information about the given condition can be thoroughly explained in the profile which can be used for interoperability. Also, the codes given in the profile can be used for mapping to further enhance interoperability. The cardinality defined for all the attributes specifies the minimum and maximum permitted appearance of the attribute. These profiles also define the datatype of the elements and attributes mentioned thus aiding in health exchange. The constraints and binding value sets are absolutely necessary to determine the standards and rules of these attributes.

This profile records, stores and fetch information regarding a particular encounter diagnosis. The profile includes the important elements necessary to aptly describe the condition and value sets to map the terms and bound to restrictions. In a nutshell, this profile serves as a foundation for any use case description.

There are many practical implications of this profile. Some of which include:

* Hospital care setting: to record or update patient’s health information about current or previous diagnosis.
* To fetch details regarding the health status of the patient from the recorded diagnosis.
* To monitor the progression the disease from the date of entry to the current status.
* Ensuring proper standardization through these profiles helps to filter out diagnosis related to a condition with the aid of Clinical decision support systems.
* This data available through profiles can play a vital role in interoperability.
* Structed data in the profiles aids in research.

· Describe each of the specified elements for your profile as shown above

o State, in your own words, the purpose of the element [Max: 5.0 x 3 = 15.0]

1. Condition.clinicalStatus

Any condition’s status is important to know the pattern of the disease. The clinical status describes the current symptoms of the condition reported in terms whether it is active/ inactive, if the given condition is a recurring event or has shown replace from the past, is the condition associated with any remission or not and finally s=describes the resolution status as well. The clinical status gives a clear picture to the physician about the patient’s disease condition. So, it is necessary that the clinical status must be included in the profile to define the characteristics of the given disease.

1. Condition.bodySite

The body site in general describes the exact location of the disease or discomfort presented by the patient. In medical terminology, this refers to the anatomic location of the described condition. Localizing the pathology to an exact site is absolutely necessary to aid in diagnosis and rule out other causes. This anatomic location hold significance in prescribing various treatment protocols and also responsible for advising location-based laboratory tests. Anatomical site plays a significant role in classifying diseases and identifying them through the medical terminologies like ICD-10 and SNOMED-CT. According to the paper written by Burgun et al. (2005) in ICD-10 four out of twenty chapters of diseases are classified based on the anatomic location. In this way, the codable concept bodySite aids in interoperability and used in the profiles if the codable concept doesn’t provide valid details of the use case.

1. Condition.evidence.code

This resource element describes if the encountered condition is adequately diagnosed or not based on the codes defined and available. This evidence might include the symptoms specific to the diagnosed condition presented by the patient, suggested tests by the physician and ruling out the differential diagnosis. All these result in identifying the given condition accurately. Evidence codes represent these manifested symptoms and help clinician to form apt diagnosis of the condition. These play a key role in transferring the health data across various systems thus providing the path to correctly identify the given condition uniformly across the globe. These codes aid in interoperability and contribute to improved patient outcomes and safety.

State and discuss the cardinality of the element – i.e., is the cardinality appropriate, and why/why not [Max: 5.0 x 3 = 15.0] (\*)

1. Cardinality of Condition.clinicalStatus: 0..1

The cardinality for clinicalStatus according to the profile is 0..1, which implies that its representation is optional and the maximum number of time it can be represented is 1 time in the profile. I believe the specified cardinality for the Condition Encounter Diagnosis profile is accurate. The clinicalStatus of the condition can change with time and this needs to be mentioned in the profile as it determines the diagnosis and further treatment approaches to the condition.

1. Cardinality of Condition.bodySite: 0..\*

The cardinality mentioned in the profile for body site is accurate as the given condition might not have a relevant anatomic location in all cases. Genetic and hereditary disorders might fall in this category where there is no anatomic pathology.

1. Cardinality of Condition.evidence.code: 0..\*

There might not be always any supporting evidence to the manifested symptoms of the condition. So, it is accurate to define cardinality 0 if there is no evidence code to the symptom presented. Also, as the medical terminology standardization is a growing field and always new codes are being developed for newly identified conditions.

o Examine the element’s associated value set and the value set’s binding strength and explain if and how it is effective. (For example, does the value set X have enough values to be a required binding strength with no other options.) If the value set binds to a large

terminology (like all of ICD-10), don’t look up all of the terms, but instead comment on the selection of terminology. If a value set has a rule instead of an explicit list of specified values, you can simply assess the rule and don’t have to look up all of the values. [Max: 6.0 x 3 = 18.0] (\*)

1. Element Condition.clinicalStatus:

ConditionClincalStatusCodes defines the value set for the element. These codes contain values which include active, inactive, remission, recurrence, relapse and resolved. These values accurately describe the status of the specified condition. I believe there is no other relevant term to describe the clinical status of the condition.

1. Element Condition.bodySite:

The value set for the element Condition.bodySite is bound from the SNOMEDCT BodyStructures terminology and codes. The code concept 442083009 is used to describe the anatomic location of the body. I believe representing the anatomic location of the pathology in SNOMED-CT terminology is accurate and reasonable.

1. Element Condition.evidence.code:

The value set manifestation and symptom codes for the element Condition.evidence.code is bound to SNOMED-CT. There are numerous values represented in this code set to describe various manifestations associated with the given condition. These can be coded with SNOMED-Ct codes which can help standardize the evidence codes to the given condition and facilitate interoperability and mapping.

Discuss ONE of the posted SHALL conformance rules (copy and paste the rule if you need it for reference). Explain what it is, and state whether or not it makes sense to be a SHALL rule, and how so [Max: 6.0] (\*)

The rule: A server **SHALL** support Condition.recordedDate.

This is one of the SHALL conformance rules posted in the use case profile of Condition Encounter Diagnosis. The SHALL rules are absolutely necessary to be followed as these rules determine the conformance of the resource and the element. The above-mentioned rule tells us that the implementer’s server must be able to support the dateTime data type of the attribute Condition.recordedDate and be able to record and read that date.

· Discuss ONE of the posted SHOULD conformance rules (copy and paste the rule if you need it for reference). Explain what it is, and state whether or not it makes sense to be a SHOULD rule, and how so [Max: 6.0] (\*)

The rule: The encounter **SHOULD** always be referenced in Condition.encounter

The SHOULD rules are usually indicated to be followed by the developers in order to make the resource or element more conformant. Condition.encounter is the attribute which talks about the clinical encounter of the patient during which the information about the condition is documented. The data type for this attribute is mentioned to be referenced to USCoreEncounterProfile which records and fetches the basic encounter information about an individual.

**References:**

Burgun, A., Bodenreider, O., & Mougin, F. (2005). Classifying diseases with respect to anatomy: a study in SNOMED CT. *AMIA ... Annual Symposium proceedings. AMIA Symposium*, *2005*, 91–95. <https://pubmed-ncbi-nlm-nih-gov.proxy.ulib.uits.iu.edu/16779008/>

SNOMED International. (2022). *5-Step briefing*. <https://www.snomed.org/snomed-ct/five-step-briefing>