

Using USAM For GLIF's Patient Data Model And Medical Knowledge Ontology

Mood

The definition mood of services will be used for defining services, for example, for defining data types of the value attribute of observation.

The event mood of services will be used when writing criteria.

The intention, or order mood will be used when writing action specs.

Examples

Age > 65 years

(year) (now – observation with (name == DateOfBirth).value) > 65

Dynamic T-wave changes

Observation with (name == EKG Finding and value == “dynamic T-wave changes”)

Prolonged, ongoing rest angina

Condition with (mood == event and name == “prolonged ongoing rest angina”)

Differences from Qing + Nachman's model

1. USMA's observations all have the same attributes. So, demographics, symptom, sign, test result, and disease all have time of observation and a valid time that can be either a timestamp or an interval.
2. In USAM, the name of an observation is taken from a vocabulary. This is very flexible. It can be very specific, like Date Of Birth, or EKG Finding, or very abstract, like symptom. In event mood, there is always a value for an observation. The value can be of various data types. The data type of an observation is specified in the definition mood. The value's type can be another code (e.g., {name == symptom; value == “back pain”} or a text, numerical, or categorical result).
3. All services have the attribute “body site”. This does not make sense for demographic observations, but does make sense for the rest of the services.
4. USAM does not have moderating factors or quality or severity that are important for characterizing symptoms. This information has to be encoded by a vocabulary term (e.g., acute anemia).
5. If there are n occurrences of an observation during a certain period of time, we can just write a query to count them. We don't need special attributes for representing these occurrences.
6. In Qing + Nachman's ontology, Symptom has an attribute called “Associated Symptoms”. They will not be modeled as associated symptoms in USAM. Instead, we would have to write a query that would look for both symptoms occurring concurrently.
7. Certain Service Relationships, such as “explained by” can be made into attributes of the service class.