Semantic Infrastructure Metadata Specialist User Story 5

Semantic Infrastructure Services

- Master List
- Periodic Table of Semantic Infrastructure Services
- User Story Matrix

Semantic Infrastructure Metadata Specialist User Story 5:
Finding touch points with other systems when building a population science application

Domain Description

The mission of population science is to reduce the risk, incidence, and deaths from cancer as well as enhance the quality of life for cancer survivors. Genetic, epidemiologic, behavioral, applied, and surveillance cancer research are typical activities of population science researchers, which combines clinical, basic, and population scientists to further individual and population health. Patients are often followed for months or years after diagnosis and/or treatment. A cancer population sciences researcher is studying chemotherapy use in young and elderly patients with advanced lung cancer. For this type of cancer, physicians and patients often have to choose between platinum-based chemotherapy or non-platinum-based chemotherapy. Platinum-based treatment is generally considered to be more aggressive and effective, but it is also more toxic. It is unclear whether physicians are avoiding platinum-based treatments in the elderly because of concerns about frailty and toxicity. The cancer researcher consults with a metadata specialist for designing the information model that will include patient, clinical, pathology, tissue, and imaging data. The metadata specialist selects a number of information models that are currently being used by other researchers, and overlays them to determine the data elements that are important for linking and capturing such diverse data. These are exported from the metadata repositories and imported into his modeling tool to be enhanced with the new fields for the population science research.

Technical Description

Each information model has well defined metadata available in distributed metadata repositories. The nature of the metadata is such that simple queries can determine overlapping data elements. This can be visualized side-by-side in a tabular format, or graphically in a UML class model. The metadata repository can output data using UML standards, such as XMI, which can easily be aggregated and imported into a modeling tool.

Cross Reference

Related Services