Annotations for biomedical research and healthcare

Bridging the gap

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Abstract— Characterizing protein products from various model organisms with Gene Ontology terms, indexing the biomedical literature with MeSH descriptors, and coding clinical data with ICD10-CM all constitute examples of annotation tasks, i.e., the extraction and summarization of knowledge related to a biological entity, article or patient, in reference to some controlled vocabulary or ontology.

However, the annotations made in biomedical research and healthcare environments tend to rely on different terminologies and ontologies, making it difficult to reconcile these annotations for translational research purposes.

We will discuss how terminology integration systems, such as the Unified Medical Language System (UMLS) and BioPortal, can help bridge the gap between annotations made by biomedical researchers and physicians, and argue that more efforts are needed to foster interoperability between the resources developed by these two communities.

Keywords— Annotations; biomedical literature; clinical data; UMLS; BioPortal