Several efforts have been undertaken to create very large, formal ontologies for health care applications.\textsuperscript{1,2} Such ontologies are envisioned as the cornerstone of future generations of the electronic medical record in order to 1) guide the representation of clinical events for clinical documentation; 2) represent clinical knowledge necessary for decision support and "intelligent" applications. Because ontologies developed using formalisms such as description logics create concepts by describing definitions, relationships, and constraints, it appears that such ontologies are well-suited to serve as clinical terminologies that can capture clinical data while encoding clinical knowledge. Whether this dual perspective can be adequately incorporated into a single very large clinical ontology remains to be demonstrated.

Formal properties of description logics support the creation of detailed, coherent clinical descriptions, automated detection of incoherent descriptions, and automated elaboration of descriptions through inference.\textsuperscript{3} For example, in a problem-list application, it would be desirable that an underlying ontology support the documentation of a presenting maculopapular rash and the finding of a positive syphilis serology, and subsequently guide the integration of the two as an episode of secondary syphilis. The documentation process also creates the necessary data artifacts to support queries for clinical data warehouse applications, such as \textit{How many cases of syphilis presented with a maculopapular rash?}

On the other hand, ontologies designed solely to answer questions of general clinical knowledge, e.g., \textit{What rashes are associated with syphilis}, will differ in organization from ontologies designed to represent clinical events. Instances of the former will describe only prototypical clinical objects and relationships. This is unsatisfactory for clinical documentation purposes because there is no opportunity to specify for any particular episode of disease what specific manifestations were present.

Several candidate methods exist to exploit a dual perspective within a single ontology. By directly manipulating the frame ontology language, one may access knowledge encoded in ontology definitions. By "reasoning about individuals," one can determine what concepts recognize a hypothetical instantiation. Finally, one may create parallel ontologies where instances in the "clinical knowledge" ontology are mapped to concepts in the "documentation" ontology. Tradeoffs between these methods exist in query complexity, expressivity, and ontology maintenance.

There is tension between ontology development guided by the bias of a particular application suite and the desire to reuse very large ontologies over an entire domain. As researchers publish methodologies for developing clinical ontologies, it will be important to describe standard idioms employed, expressivity constraints of the modeling language, and target applications. Further research is necessary to demonstrate modeling idioms and expressivity features that will allow a single clinical ontology to support both capture of clinical data and queries of clinical knowledge.

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