

## A Taxonomy of Terminology Server Desiderata

The use of terminology servers in the health domain will lead to the standardisation of the organisation of medical thesauri, terminologies, ontologies and classifications (TTOCs). By using mappings between TTOCs, users will be able to search the semantic content of medical files using their own TTOC, and still have the meaning of their search terms preserved across TTOCs and by implication across the clinical information systems that use the TTOCs.

The actual use of terminology servers in the field however is sporadic at best and the functionality is usually implemented within an individual clinical information system, leading to inconsistency in record keeping and data representations. This research canvases the literature from more than a decade of research into the problem. Our research defines the role of a terminology server and details the desiderata for the use of a terminology server. The limit of these desiderata are discussed and a functional taxonomy is produced that specifies the features a terminology server must possess to provide for indexation, storage and retrieval of medical concepts based on semantic rather than lexical features. A prototype implementation of a terminology server built on these desiderata has been produced by the Health Information Technology Research Laboratory at the University of Sydney and currently serves numerous applications, including; the GCIMS project, a generic ontology viewer, a ward round information system, a clinical data analytics engine, and an automated medical concept identification engine for use on text.