

## Transforming Thesauri, Terminologies, Ontologies and Classifications into a Generic Ontological Structure

The use of Thesauri, Terminologies, Ontologies and Classifications (TTOCs) in the health domain can be of substantial use in indexing semantic content in free text for information extraction and retrieval. TTOCs standardise the way concepts are expressed and allow variations of syntactic representation to be mapped to the same underlying concept.

Many TTOCs in use in the health domain exist only on paper or are built into existing information systems, and their data representations vary widely, making their inclusion in a single information system that indexes medical notes difficult and cumbersome. Our response to this is the development of a Generic Ontological Structure (GOS) for medical TTOCs and a process by which existing TTOCs can be transformed into a pseudo-ontology which then enables any TTOC to be stored in the one data organisation. The method has been demonstrated as usable for the TTOCs: Apache IV, Nursing Outcomes Classification (NOC), Nursing Interventions Classification (NIC), SNOMED CT. They can be viewed and searched through the public web page <http://www.it.usyd.edu.au/~hitru/ttoc/viewer.cgi>

The GOS is currently used in research undertaken at the Health Information Technology Research Laboratory at the University of Sydney. It forms the backbone of the GCIMS terminology server, which delivers TTOC information to a variety of applications, including; GCIMS, an automated medical concept identification engine, a generic ontology viewer, a clinical data analytics language and a ward round information system.