

# Converting an Integrated Hospital Formulary into an Object-Oriented Database Representation

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## Abstract

*Controlled Medical Vocabularies (CMVs) have proven to be extremely useful in their support of the tasks of information sharing and integration, communication among various software applications, and decision support. Modeling a CMV as an Object-Oriented Database (OODB) provides additional benefits such as increased support for vocabulary comprehension and flexible access. In this paper, we describe the process of modeling and converting an existing integrated hospital formulary (i.e., set of pharmacological concepts) into an equivalent OODB representation, which, in general, we refer to as an Object-Oriented Healthcare Vocabulary Repository (OOHVR). The source for our example OOHVR is a formulary provided by the Connecticut Healthcare Research and Education Foundation (CHREF). Utilizing this source formulary together with the semantic hierarchy composed of major and minor drug classes defined as part of the National Drug Code (NDC) directory, we constructed a CMV that was eventually converted into its OOHVR form (the CHREF-OOHVR). The actual conversion step was carried out automatically by a program, called the OOHVR Generator, that we have developed. At present, the CHREF-OOHVR is running on top of ONTOS, a commercial OODB management system, and is accessible on the Web.*

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