

Practical Applications of Knowledge Representation and Management in Healthcare

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Abstract

Knowledge representation and management for computerized clinical decision support attempts to systematically provide clinicians with the necessary information and knowledge for making the right decisions for each patient. This relies on well-defined strategies and processes to create and maintain the clinical knowledge assets necessary for effective and sustainable decision support interventions. Handling knowledge content through a lifecycle supports consistent creation of knowledge assets, whereas ontologies, reference terminologies, and contextual information address the computational modeling aspects of the knowledge representation. The combination of consistent, reproducible knowledge creation and maintenance processes with a sound conceptual framework for modeling clinical decision support assets provide a robust foundation that facilitates knowledge authoring, editing and update; foster consistency in asset implementation and maintenance; and support development of authoritative knowledge repositories to promote quality, safety and efficacy of healthcare.