

Minitrack Chairs' Introduction: Knowledge Management for Health Care Systems Support

Lisa Sokol
Technical Director
Veridian
10560 Arrowhead Dr.
Fairfax, VA 22003, USA
Lisa.sokol@veridian.com

Peri H. Iz
Centers for Medicare and
Medicaid
Office of Strategic Planning
Research and Evaluations
Group
7500 Security Blvd.
Mail Stop C3-19-26
Baltimore, MD 21244-1850,
USA
piz@cms.hhs.gov

James Warren
School of Computer and
Information Science
University of South Australia
Mawson Lakes SA 5095
AUSTRALIA
warren@cs.unisa.edu.au

This minitrack is devoted to how Knowledge Management can be used to support the development of improved health care processes.

The first paper is "Using Bayesian Networks for Discovering Temporal-State Transition Patterns in Hemodialysis". The paper develops a set of causal relationships between medical treatments and transitions of patient's physiological states in the Hemodialysis process. These patterns can be used for predicting possible paths for an admitted patient, and facilitating medical professionals in reacting exceptions during the Hemodialysis process.

The second paper, "Agent Support for Patients and Community Pharmacies," explores agent technology to support the information needs of patients and community pharmacists toward a beneficial outcome for the patient. They develop an architecture that assists patients in understanding their conditions and treatments. The goal here is to create an evidence-based care model that can help patients make more use of over the counter medications to manage their own conditions. They develop an agent architecture that utilizes implicit and explicit sources of information for patient profiling, notably including the electronic medical record.

Our third paper is "A Neural Clustering Approach to Iso-Resource Grouping for Acute Healthcare in Australia". Knowledge about resource consumption and utilisation is vital in modern healthcare environments. Classic resource consumption models are generated by grouping patients by common diagnostic characteristics and then assigning funding based on provider case mix. The paper suggests that this particular grouping do not present a sound basis for relevant knowledge generation. The paper proposes an alternative grouping of the patients based on a neural clustering approach, which generates homogeneous groups of patients with similar

resource utilisation characteristics. Demographic information is used to generate the clusters, which reveal interesting differences in resource utilisation patterns.