## Contents

### Modeling Clinical Guidelines and Comorbidity

Knowledge-Intensive Medical Process Similarity .............................................. 1  
  Stefania Montani, Giorgio Leonardi, Silvana Quaglini, Anna Cavallini,  
  and Giuseppe Micieli

Preliminary Result on Finding Treatments for Patients with Comorbidity .......... 14  
  Yuanlin Zhang and Zhizheng Zhang

Towards a Conceptual Model for Enhancing Reasoning About  
Clinical Guidelines ......................................................................................... 29  
  Veruska Zamborlini, Marcos da Silveira, Cédric Pruski, Annette ten Teije,  
  and Frank van Harmelen

Using First-Order Logic to Represent Clinical Practice Guidelines  
and to Mitigate Adverse Interactions ............................................................. 45  
  Szymon Wilk, Martin Michalowski, Xing Tan, and Wojtek Michalowski

### Exploring and Assessing Clinical Guidelines

Conformance Analysis of the Execution of Clinical Guidelines  
with Basic Medical Knowledge and Clinical Terminology ............................ 62  
  Matteo Spiotta, Alessio Bottrighi, Laura Giordano,  
  and Daniele Theseider Dupré

Semantic Representation of Evidence-Based Clinical Guidelines ......................... 78  
  Zhisheng Huang, Annette ten Teije, Frank van Harmelen,  
  and Salah Aït-Mokhtar

META-GLARE: A Meta-System for Defining Your Own CIG System:  
Architecture and Acquisition ........................................................................... 95  
  Paolo Terenziani, Alessio Bottinighi, Irene Lovotti, and Stefania Rubrichi

Assessment of Clinical Guideline Models Based on Metrics for Business  
Process Models .................................................................................................. 111  
  Mar Marcos, Joaquín Torres-Sospedra, and Begoña Martínez-Salvador

An Algorithm for Guideline Transformation: From BPMN to PROforma .......... 121  
  Begoña Martínez-Salvador, Mar Marcos, and Anderson Sánchez
Methods and Applications

A Process-Oriented Methodology for Modelling Cancer Treatment Trial Protocols ................................................................. 133
   Aisan Maghsoodi, Anca Bucur, Paul de Bra, Norbert Graf, and Martin Stanulla

Training Residents in the Application of Clinical Guidelines for Differential Diagnosis of the Most Frequent Causes of Arterial Hypertension with Decision Tables ......................................................... 147
   Francis Real, David Riaño, and José Ramón Alonso

Exploiting the Relation Between Environmental Factors and Diseases: A Case Study on Chronic Obstructive Pulmonary Disease ................. 160
   David Riaño and Agusti Solanas

Author Index .................................................................................. 175
Knowledge Representation for Health Care
6th International Workshop, KR4HC 2014, held as part
of the Vienna Summer of Logic, VSL 2014, Vienna,
Austria, July 21, 2014. Revised Selected Papers
Miksch, S.; Riaño, D.; ten Teije, A. (Eds.)
2014, X, 175 p. 48 illus., Softcover
ISBN: 978-3-319-13280-8