

# Contents

## Modeling Clinical Guidelines and Comorbidity

Knowledge-Intensive Medical Process Similarity . . . . .	1
<i>Stefania Montani, Giorgio Leonardi, Silvana Quaglino, Anna Cavallini, and Giuseppe Miceli</i>	
Preliminary Result on Finding Treatments for Patients with Comorbidity . . . .	14
<i>Yuanlin Zhang and Zhizheng Zhang</i>	
Towards a Conceptual Model for Enhancing Reasoning About Clinical Guidelines . . . . .	29
<i>Veruska Zamborlini, Marcos da Silveira, Cédric Pruski, Annette ten Teije, and Frank van Harmelen</i>	
Using First-Order Logic to Represent Clinical Practice Guidelines and to Mitigate Adverse Interactions . . . . .	45
<i>Szymon Wilk, Martin Michalowski, Xing Tan, and Wojtek Michalowski</i>	

## Exploring and Assessing Clinical Guidelines

Conformance Analysis of the Execution of Clinical Guidelines with Basic Medical Knowledge and Clinical Terminology . . . . .	62
<i>Matteo Spiotta, Alessio Bottrighi, Laura Giordano, and Daniele Theseider Dupré</i>	
Semantic Representation of Evidence-Based Clinical Guidelines . . . . .	78
<i>Zhisheng Huang, Annette ten Teije, Frank van Harmelen, and Salah Ait-Mokhtar</i>	
META-GLARE: A Meta-System for Defining Your Own CIG System: Architecture and Acquisition . . . . .	95
<i>Paolo Terenziani, Alessio Bottrighi, Irene Lovotti, and Stetania Rubrichi</i>	
Assessment of Clinical Guideline Models Based on Metrics for Business Process Models. . . . .	111
<i>Mar Marcos, Joaquín Torres-Sospedra, and Begoña Martínez-Salvador</i>	
An Algorithm for Guideline Transformation: From BPMN to PROforma . . . .	121
<i>Begoña Martínez-Salvador, Mar Marcos, and Anderson Sánchez</i>	

**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