Contents

FOREWORD xi

AUTHOR xv

CONTRIBUTORS xvii

CHAPTER 1 AN INTRODUCTION TO THE U.S. HEALTHCARE INDUSTRY, INFORMATION TECHNOLOGY, AND INFORMATICS 1

STEPHAN P. KUDYBA AND RICHARD TEMPLE

CHAPTER 2 ELECTRONIC HEALTH INFORMATION, HEALTHCARE SYSTEM INTEROPERABILITY, MOBILE HEALTH, AND THE FORMATION OF A COMMUNITY OF HEALTH AND WELLNESS 25

STEPHAN P. KUDYBA, THAD PERRY, AND DEBORAH BALLOU

CHAPTER 3 QUALITY TIME IN HEALTHCARE: MEANINGFUL USE OF HEALTH INFORMATION TECHNOLOGY AND THE JOURNEY TO PAYING FOR VALUE 43

MICHAEL H. ZAROUKIAN AND PETER BASCH

CHAPTER 4 A PROJECT MANAGEMENT FRAMEWORK OF HEALTHCARE INFORMATICS INITIATIVES 79

CHRISTI RUSHNELL AND MARY BEATTIE

CHAPTER 5 NURSING ROLES IN THE IMPLEMENTATION OF CLINICAL INFORMATION SYSTEMS 127
TERRY MOORE

CHAPTER 6 ARCHITECTING TRANSITIONS TO A FULLY ELECTRONIC MEDICAL RECORD WITH EMPHASIS ON PHYSICIAN ADOPTION AND OPTIMAL UTILIZATION 149
JAMES F. KEEL, III AND D. ARLO JENNINGS

CHAPTER 7 KNOWLEDGE TRANSLATION AND INFORMATICS IN HEALTHCARE 181
ANN McKIBBON

CHAPTER 8 APPLICATION OF HEALTHCARE INFORMATICS TO IMPROVING PATIENT SAFETY AND OUTCOMES: LEARNING FROM THE EXPERIENCES OF TRINITY HEALTH 199
RAJIV KOHLI, FRANK PIONTEK, LARRY SELLERS, TOM MINER, AND PAUL CONLON

CHAPTER 9 THE NEW MEDICAL FRONTIER: REAL-TIME WIRELESS MEDICAL DATA ACQUISITION FOR 21ST-CENTURY HEALTHCARE AND DATA MINING CHALLENGES 217
DAVID LUBLINER AND STEPHAN P. KUDYBA

CHAPTER 10 THE WORLD OF HEALTH ANALYTICS 251
JASON BURKE

CHAPTER 11 INFORMATION CREATION THROUGH ANALYTICS: A HEALTHCARE FOCUS 275
STEPHAN P. KUDYBA

CHAPTER 12 ENHANCING DATA RESOURCES AND BUSINESS INTELLIGENCE IN HEALTHCARE 305
STEPHAN P. KUDYBA AND MARK RADER

CHAPTER 13 TAKING ACTION FOR HEALTH PLAN MEMBERS' HEALTH: AN ARGUMENT FOR AN EXPERT SYSTEM'S APPROACH TO OPTIMIZING CARE MANAGEMENT UTILIZATION AND FINANCIAL OUTCOMES 319
STEPHAN P. KUDYBA, THAD PERRY, AND JOHN AZZOLINI

CHAPTER 14 AN INTRODUCTION TO DATA AND TEXT MINING IN HEALTHCARE: A FOCUS ON BUILDING ALERTING SYSTEMS FOR DECISION SUPPORT 333
BILLIE ANDERSON, CALI M. DAVIS, AND J. MICHAEL HARDIN

CHAPTER 15 DATA MINING IN HEALTHCARE 353
WULLIANALLUR RAGHUPATHI

INDEX 369