CONTENTS

Contributors

Acknowledgments

Preface

1 Introduction: The Role of IT in Transforming Health Systems
Gordon D. Brown, Ph.D.
Information As A Transforming Technology
IT in Healthcare Organizations
The Constraining Potential of IT
Information Skills for Health Systems Leaders

Part 1: The Contribution of Information Technology to Organizational Strategy: Integrating the Clinical and Business Functions

2 Information Strategy Related to Enterprise and Organizational Strategies
Tamara T. Stone, Ph.D., M.B.A., and Gordon D. Brown, Ph.D.
The Strategy Network in Healthcare Organizations
Information Strategy Related to Enterprise and Organizational Strategies
IT as a Social Good

3 Organizational Accountability for Clinical Outcomes: The Coming of the Corporation
Gordon D. Brown, Ph.D., and Suzanne A. Boren, Ph.D., M.H.A.
Integration of Clinical Strategy with Business Strategy:
Information Strategy: Clinical Decision Support Systems
Aligning Information Strategy with Clinical Strategy

4 Information Strategy Empowers Organizational Strategy
Tamara T. Stone, Ph.D., M.B.A.
Competitive Advantage in Healthcare Organizations
The Resource-Based Enterprise
Creating a Knowledge-Based Learning Organization
Transforming Intangible Assets Through IT
Commitment-Based Management and the Human Capital of IT Workers

5 Managing Data, Information, and Knowledge
Timothy B. Patrick, Ph.D.
Data, Information, and Knowledge: A Philosophical View
Controlled Representations and Interoperability of Data, Information, and Knowledge
Interoperability and Knowledge Management

The Semantic Web

Part 2: Information as an Enterprise Strategy: The Strategic Use of Information Resources

6 Aligning Information Strategy and Business and Clinical Strategies: Information as a Strategic Asset
Kenneth D. Bopp, Ph.D., and Gordon D. Brown, Ph.D.
Value Migration in Healthcare
Consumer Empowerment in Health Services
Strategic Leadership in Healthcare Organizations
The Coming Paradigm Shift

7 e-Health and Consumer Informatics
George Demiris, Ph.D.
Implications of IT for Empowering Individuals and Communities
Review of Patient-Centric Systems
Challenges for E-Health Applications
Success Factors for E-Health
Considerations for the Future

8 Genomic Medicine: Informatics Implications and Opportunities
Mark A. Hoffman, Ph.D.
Genomic Medicine
Current State
Emerging Trends

Part 3: Information Strategy: Managing Information Resources

9 Investing in IT
Keith E. Boles, Ph.D., and Michael J. Cook, M.H.A.
The Challenge of Delivering Value
A Valuation Framework for IT
Tools for Evaluating IT Investments
Process of Evaluating IT Investments
Behavioral and Other Noneconomic Issues

10 Managing IT Services
Anthony N. Duminski, M.S.E.E., M.B.A., and Timothy B. Patrick, Ph.D.
IT Governance and Leadership
Strategic IT Planning
Individual Project Planning and Management
IT Department Organization

11 Information Security and Ethics
Kenneth W. Lobenstein, J.D.
A Security Framework

Aspects of a Basic Security Program
A Zone-Based Architecture

Part 4: Building a Health Information Infrastructure

12 Conclusion: Managing IT in the Future
Gordon D. Brown, Ph.D., and Jim Adams, M.B.A.
The Seeds of Change: Transforming the U.S. Health System
Development of an Integrated Information System
Personal Health Record
Clinical Information Networks
Innovative Business Models