Contents

Foreword xi
Preface xv
Acknowledgements xix

Chapter 1 A Changing Business for a Changing Science 1
  The Gathering 1
  How Can Medicine Become Smarter? 3
  Complexity Exceeding Cognition 4
  Learning from Other Industries 6
  Nancy 7
  Characterizing Health Analytics 8
  The Gathering Revisited 10

Chapter 2 Convergence and the Capability Map 11
  Nice Job, But . . . 11
  Fifty Flashlights 12
  Convergence Defined 13
  Is Convergence Really Required? 14
  The Rush to Health It 17
  The Capability Map 18
  Putting the Capability Map to Use 21
  Health Analytics as a Discipline 23
  Notes 25

Chapter 3 The Four Enterprise Disciplines of Health Analytics 27
  Heresy 27
  Health Analytics for the Nonanalytical 29
  Information Management 30
  Statistics 36
  Information Delivery 39
  High-Performance Computing 41
  Maturation and Scale 42
  Enterprise-Class Analytics: Putting it All Together 44
Chapter 4  Dealing with Data  47
- Callimachus  47
- Not a Drop to Drink  48
- Defining Data  48
- Big Data  49
- Growth in Data Provisioning  52
- The Excuses Every Leader Needs to Know  54
- Building for Tomorrow  58
- Conclusion  60

Chapter 5  BEST Care, First Time, Every Time  63
By Dr. Graham Hughes
Chief Medical Officer, SAS Center for Health Analytics and Insights
- Medicine: Art, Science, or Both?  63
- Leveraging Evidence to Deliver Improved Outcomes  66
- What are Clinical Outcomes?  68
- Supplementing the Unaided Human Mind  72
- Health Care’s Dark Fiber  74
- Identifying Hidden Patterns  75

Chapter 6  Financial Performance and Reimbursement  79
- Goals  79
- Structures and Models  80
- Many Names, Common Attributes  83
- What is Needed  86
- Surviving and Thriving  91

Chapter 7  Health Outcomes Analysis  95
- No Leeches Necessary  95
- Orientation  96
- The Big Seven + One  97
- Timing is Everything  98
- Groupers  100
- The Population-Patient Pivot  101
- Patients Like this One  104
- One Model, Many Beneficiaries  107
- The Role of Rules Engines  109
- Challenges in Health Outcomes Analytics  110
- Health Outcomes Analytics in Practice  113
- The Marvelous Leech  114
- Note  115

Chapter 8  Health Value and Cost  117
- An Asymmetrical Industry  117
- Kaplan and Porter’s Stand  120
The Elusive Health Value 121
Dissecting Value 123
Linking Costs to Risk 132
Value Innovation 133
Note 134

Chapter 9 The New Behavioral Health 135
Dangerous Portals 135
The Health-Mindedness Gene Experiment 136
Engel’s Model 137
The New Evolving Science of Behavioral Health 138
What You Are 140
What You Experience 142
What You Do 143
What You Believe 145
Influencing Change 145
Putting Into Practice 146
Outcomes 148
Notes 149

Chapter 10 Customer Insights 151
The Consumerized Patient 151
Will the Real Customer Please Stand Up? 151
What Are Customer Analytics? 154
A Framework of Customer Analytics 155
Sharing Insights 161
Adherence 163
Beyond Commercial 165

Chapter 11 Risk Management 167
Risky Business 167
Why Are Risks So Hard? 168
Recharacterizing Risk Factors 169
The Example of Customer Segmentation 170
Risk Interdependencies 171
Everybody in the Pool 173
The Catch 175
Risk Adjustment 176
Borrowing from Other Industries 178
Growing Risks 179

Chapter 12 Quality and Safety 181
Defining Quality 181
Not Your Father’s Toyota 184
On Track 185