Interoperability is one of the hottest topics in healthcare, yet one of the least well understood. Successful interoperability offers great opportunities to improve quality and outcomes while reducing waste and costs. The task of interoperability is to deliver the right information at the right time to the right place. Everybody (patient, clinician, manager and payer) stands to benefit from more soundly based decisions, safer care and less waste, errors, delays and duplication.

Interoperability needs appropriate standards to link computer systems, and to share information in a way that meets security and privacy needs. SNOMED CT and HL7 (including FHIR) provide key standards that underpin efforts to improve healthcare interoperability. HL7 provides the structure, rather like English grammar, while SNOMED CT provides the words that computers understand.

This book gives a broad introduction to healthcare interoperability in general, and the main standards, setting out the core principles in a clear readable way for analysts, students and clinicians.

The third edition of this book is fully revised, reorganized and extended. There are five new chapters on FHIR (Fast Healthcare Interoperability Resources), written by Grahame Grieve, the father of FHIR. This is the first comprehensive introduction to FHIR in any book.

FHIR APIs are likely to have a massive disruptive impact on healthcare interoperability, being an order of magnitude less expensive to implement than previous standards. FHIR will also support an explosion of patient-centric apps that can interoperate with legacy systems.

To accommodate these changes, we have changed the order of the chapters, so that clinical terminology and SNOMED CT come before HL7 interchange formats, v2, v3, CDA and FHIR. The introductory chapters have also been revised and updated.
The book is organized in four parts. The first part covers the principles of healthcare interoperability, why it matters, why it is hard and why modeling is an important part of the solution. The second part covers clinical terminology and SNOMED CT. The third part covers the longer established HL7 standards, v2, v3, CDA and IHE XDS. The final part covers FHIR.

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