Electronic Healthcare Information Security

Advances in Information Security

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Electronic Healthcare Information Security

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Dedications

To our families and friends ...

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Preface

The adoption of Information and Communication Technologies (ICT) in healthcare is driven by the need to contain costs while maximizing quality and efficiency. However, ICT adoption for healthcare information management has brought far-reaching effects and implications on the spirit of the Hippocratic Oath, patient privacy and confidentiality. A wave of security breaches have led to pressing calls for opt-in and opt-out provisions where patients are free to choose to or not have their healthcare information collected and recorded within healthcare information systems. Such provisions have negative impact on cost, efficiency and quality of patient care. Thus determined efforts to gain patient trust is increasingly under consideration
for enforcement through legislation, standards, national policy frameworks and implementation systems geared towards closing gaps in ICT security frameworks.

The ever-increasing healthcare expenditure and pressing demand for improved quality and efficiency in patient care services are driving innovation in healthcare information management. Key among the main innovations is the introduction of new healthcare practice concepts such as shared care, evidence-based medicine, clinical practice guidelines and protocols, the cradle-to-grave health record and clinical workflow or careflow. Central to these organizational re-engineering innovations is the widespread adoption of Information and Communication Technologies (ICT) at national and regional levels, which has ushered in computer-based healthcare information management that is centred on the electronic healthcare record (EHR). A critical and determinant factor in this scenario is the heightened awareness and concern about ensuring patient privacy and confidentiality, which are under threat within the distributed networked environment of ICTs and EHRs. The domain of healthcare information management offers a significant, complex and challenging testing ground to Information Security due to the complex nature of healthcare information. The security of healthcare information in the context of a networked, sensor-enabled, pervasive and mobile computing infrastructure is at the core of both the main challenges and potential risks of Healthcare ICT adoption.

The domain of healthcare has become a challenging testing ground for information security due to the complex nature of healthcare information and individual privacy. This is the first comprehensive book that explores the challenges of Electronic Healthcare Information Security, Policies and Legislation. We proposed a framework and an evaluation approach for the e-Healthcare Information Systems Security. This book also reflects our knowledge and experience in the field of security and privacy.

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