To say that these are interesting times in healthcare IT would be an understatement. Information technology is now used not only to put patient medical records online and automate patient management in hospitals but also to provide telemedicine services to underserved parts of the world, enable healthcare consumers to access and manage their own health records, and enable public health agencies to monitor epidemiological trends. Standards, interoperability, and security become increasingly important as more medical data is put online and shared among healthcare facilities via health information networks.

Reflecting the global nature of this upsurge in healthcare IT implementations, this special issue provides a truly international perspective. In “Building a National Telemedicine Network,” Wallauer, Macedo, Andrade, and Wangenheim discuss the design of a network in Brazil that was motivated by the need to reduce the cost of transporting patients to health centers and ended up providing multimedia capabilities for remote diagnosis and treatment as well. Møller and Vosegaard’s “Experiences with Electronic Health Records” outlines the work of IBM’s ACURE team in developing an electronic health record (EHR) system for the Danish national healthcare system. Their experiences underscore the importance of standards and interoperability.

Another implementation trend is the use of new architectural approaches. “Building a Distributed E-Healthcare System Using SOA,” by Kart, Moser, and Melliar-Smith, describes a distributed healthcare system that uses service-oriented architecture (SOA) technology in designing, implementing, and managing healthcare services. Stantchev, Schulz, Hoang, and Ratchinski present another novel use of technology in “Optimizing Clinical Processes with Position-Sensing.” Specifically, they use position-sensing technologies to optimize clinical processes and monitor and manage the movements of patients and staff. In “Improving Startup Performance for a Medical Image Viewing Application,” Zhu and colleagues demonstrate that combining information from various medical imaging modalities can lead to poor performance in terms of startup time, even as it helps improve patient care. Their article describes various techniques for overcoming the startup performance problems that image viewing applications often introduce.

Given the sensitive nature of personal health information, security and privacy are major concerns in implementing an EHR. “Medical Record Privacy and Security in a Digital Environment,” by Kahn and Sheshadri, provides an overview of Health Insurance Portability and Accountability Act (HIPAA) regulations in the US and offers guidance on protecting sensitive data in clinical environments.

Finally, this issue’s ITPro/Con department (p. 53) presents a roundtable-style discussion that guest editor Thomas Jepsen held electronically with managers and administrators at University of North Carolina Hospitals to discuss the real-world issues they face in implementing online medical records systems.
The administration of medicine is changing rapidly as new regulations and standards emerge to facilitate and govern the electronic exchange of medical records.
To realize the full benefits of health information technologies, developers must overcome several major challenges, including health information’s portability and healthcare IT systems’ interoperability, the adoption of computer-based patient record systems (CPRSs), and the security and privacy of health information. Health information’s interoperability and portability via IT are essential to better healthcare delivery and quality. This requires us to address the gap in CPRS adoption between large hospitals and small hospitals, between large and small physician practices, and between other healthcare providers. This adoption gap has the potential to create differential health treatments and quality, resulting in a quality gap. Finally, the security and privacy of health information are critical to promote and facilitate health information exchange.

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Scholarly publication is being influenced by an emerging trend toward open access, in which content is made available for free to all through the Web. Yet, open access publication isn’t free: someone must bear the cost of refereeing, editing, publishing, and maintaining reliably high-quality content. It also raises intellectual property issues regarding who owns the information—funding agencies? authors? publishers? Other forms of open publishing include open refereeing (in which anyone can review and comment on a paper prior to publishing) and open archiving (in which papers published via traditional journal mechanisms are made available to the public via Web-based archives).

For this special issue of IT Pro, we seek original articles that explore the topics such as:

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- experience reports from publishers of open access journals;
- intellectual property, societal, and ethical issues;
- publisher rights and responsibilities;
- tenure and promotion considerations; and
- quality issues

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