

## Foreword

In 2006, healthcare information systems expenditures in the U.S. are estimated to be \$31 billion. Hospitals make up the largest portion of these expenditures. Hospital information systems typically represent 2-5% of a hospital's operating budget. Frequently, it is the largest item in the hospital's capital budget. Many claim hospitals and other healthcare organizations are not spending enough on information systems, and that the benefits of past and current expenditures are not fully realized.

I have had the good fortune of observing and participating in much of the history of hospital-centric healthcare information systems. This has been as a student, college professor, consultant, entrepreneur, and company executive.

Most early efforts to automate financial and clinical processes were made in teaching hospital environments and frequently funded by research grants from government and private sources. Early on, computer hardware companies (e.g., IBM, Honeywell) invested in hospital software development hoping to stimulate computer hardware sales in the emerging hospital information systems market. There were also some early innovators funded by venture capital. The first widely accepted healthcare software applications were produced by these commercial efforts. However, in-house software development was widespread.

In the late 1960s, several commercial organizations adopted a business model, called shared services, which involved having the principal hardware required for information processing located at a single location and linking hospitals and other healthcare organizations to this central facility using satellite data transmission (e.g., Shared Medical Systems, now a subsidiary of Siemens). These companies used a standard software offering. Shared services provided an alternative strategy for hospitals and other healthcare organizations to automate their information systems. This alternative grew rapidly and accelerated adoption of information technology in financial and selected clinical areas.

Today, most hospital applications software is supplied by third party vendors. There continue to be a limited number of hospitals that are maintaining their self-developed

core applications. Current offerings provide the opportunity for computerization of most hospital departments, support of many clinical processes and computerization of physician offices and other non-hospital healthcare activities. Hospital utilization of these offerings varies from limited to extensive; and operating costs are too high for the benefit gained.

Recently, there has been a renewed interest in hospital IT outsourcing, which involves taking a specific function within the IT department and contracting with a third party to perform that function. Many healthcare organizations have contracted with a third party to perform all functions of their IT department. Offshore outsourcing involves performing one or more functions of the IT department overseas. India, China and the Philippines are among many countries in which offshore companies offer these services. Since healthcare information systems are largely dependent on third party software, many of the cost-benefit advantages of offshore outsourcing are not available to healthcare organizations.

Currently, there is considerable discussion about making a patient's health record available appropriately anywhere in the nation. The federal government's proposed architecture for achieving this national health information network is through creation of regional health information systems that eventually will be linked into a national health information system. At this time, there are a limited number of regional demonstration projects underway. The ultimate cost to achieve a national health information network is very high and the source of funding has not been identified.

In this book, Roy Rada discusses these developments and issues plus many others. He has documented the conceptual foundation of healthcare information systems, its history and current status. This is a definitive work and our industry has needed it for some time.

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*Ron Gue was the founder of Phoenix Health Systems. He has a BES and a PhD from the Johns Hopkins University. He began his career as a college professor at the University of Florida and Southern Methodist University. In addition to Phoenix, Gue has been the CEO of two other hospital information technology companies. He also has been a healthcare IT consulting practice leader for a small Chicago firm and for a Big 8 accounting firm. He has been a consultant for numerous private and governmental healthcare organizations in the U.S., Asia, the Middle East and Europe. He is the author of one textbook and many articles published in refereed professional journals.*