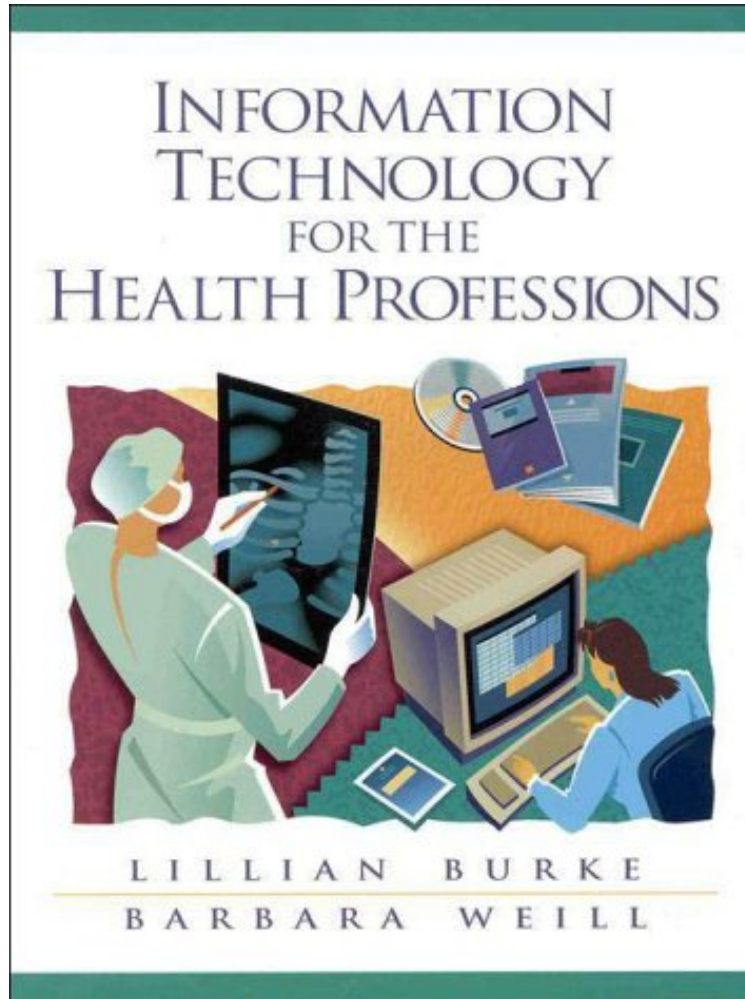


## Information Technology for the Health Professions

*Lillian Burke, Barbara Weill*

*ePub | \*DOC | audiobook | ebooks | Download PDF*



DOWNLOAD



READ ONLINE

#11370142 in Books Prentice Hall 1999-11-16 Original language: English PDF # 1 12.20 x .47 x 6.921, 1.10  
#File Name: 0130831999242 pages | File size: 35.Mb

**Lillian Burke, Barbara Weill : Information Technology for the Health Professions** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Information Technology for the Health Professions:

0 of 0 people found the following review helpful. An update? By SharkieReading it almost feels a little old. Some of the technology in the book almost sounds outdated and some of the pictures (Floppy disc, clunky laptop) make it feel older than it is. Includes some newer technology, like the Di Vinci Surgical System. I like the screenshots they included on some of the pages for the computer systems you'll see in a hospital. 1 of 1 people found the following review helpful. This is a great book for leaning about technology, and health care. By Tracey Collins I had picked the five star rating because this book was very helpful in my course about technology and health professionals. I like this book because it has a lot of useful information on the different types of technology there are in the health care feild. I would recommend this book to anyone who is interested in learning more about the different types of technology there

are in the health care, and anyone who is going to be in this type of classes. 0 of 0 people found the following review helpful. Four Stars By Araceli M. Medina Good for the price.

This comprehensive survey of the interconnections of IT and health care is the only up-to-date book that teaches computer literacy AND introduces readers to the uses of information technology in health care and its delivery. Familiarizes readers with the basic vocabulary and concepts necessary to computer literacy including discussions of hardware and software, communications and networking, and ethical issues and privacy concerns introduced by the pervasiveness of computers in society. In addition, it discusses how IT is transforming every aspect of health care and its delivery from administrative applications (such as the electronic medical record), to clinical systems involved in direct patient care, to special- purpose applications (such as simulation software used in the education of health care professionals). Section I provides a general introduction to computer literacy and information technology at a level appropriate for health care students. Section II examines the impact of Information Technology on health care specifically in the fields of radiology, telemedicine, surgery, medical devices, pharmacy, and informational resources.

From the Back Cover This comprehensive survey of the interconnections of IT and health care is the only up-to-date book that teaches computer literacy AND introduces readers to the uses of information technology in health care and its delivery. Familiarizes readers with the basic vocabulary and concepts necessary to computer literacy including discussions of hardware and software, communications and networking, and ethical issues and privacy concerns introduced by the pervasiveness of computers in society. In addition, it discusses how IT is transforming every aspect of health care and its delivery from administrative applications (such as the electronic medical record), to clinical systems involved in direct patient care, to special- purpose applications (such as simulation software used in the education of health care professionals). Section I provides a general introduction to computer literacy and information technology at a level appropriate for health care students. Section II examines the impact of Information Technology on health care specifically in the fields of radiology, telemedicine, surgery, medical devices, pharmacy, and informational resources.

About the Author Lillian Burke, PhD, is a Psychologist and Assistant Director of the Redpath Centre (Toronto, Ontario). She obtained a Doctorate in Clinical and Developmental Psychology from York University (Toronto, Ontario) in 1993. Dr. Burke first specialized in Autism Spectrum Disorders (ASDs) in the early 1980s, and since then, has continued to work with children and adults who have ASDs and developmental disabilities. In 1994, she began working with children, youth and adults with Asperger Syndrome and other mild forms of ASDs. She has been previously employed by several agencies providing clinical services to individuals with developmental disabilities, their families and the agencies that support them. In her private practice, her primary activity is assessment of and consultation to individuals who have ASDs and in particular, Asperger Syndrome. As well as clinical work, she has carried out research and published extensively on the area of ASDs and developmental disabilities in adults.

Excerpt. Reprinted by permission. All rights reserved. Information technology continues to change many aspects of society, including health care and its delivery. In *Information Technology for the Health Professions*, we take a practical approach to introducing health care professionals to the myriad uses of computer technology in health care fields. After a brief introduction to the essential concepts needed to understand computer hardware, software, telecommunications, and the privacy and security of information, we see how these technologies have affected various aspects of health care. The term information technology includes not only computers, but also communications networks and computer literacy, that is, knowledge of the uses of computer technology. Rapidly changing computer technology continues to exert a major influence on all aspects of society. The understanding of the interconnections of hardware, software, networks, and new medical techniques is essential.

**AN INTRODUCTION TO THE SECOND EDITION**

The second edition of *Information Technology for the Health Professions* has been expanded and updated for the new millennium. It includes new sections on recent technological developments and their uses in health care and its delivery, on new laws affecting privacy and security of medical information, an expanded chapter on medical informatics and the administrative uses of computers, and a new chapter on computer technology in dentistry. Dated materials have been deleted. Although *Information Technology* is geared to an audience interested in health care, it is written at a level appropriate for the layperson.

**Chapter 1: Introduction to Information Technology**

**Hardware, Software, and Telecommunications**

The first three chapters of the first edition on computer literacy, computer hardware and software, and networking and telecommunications have been condensed, keeping only information essential to students and others interested in computers and health care. These chapters have been combined into a new Chapter 1, which provides the student with information necessary to anyone living and working in a computerized society.

**Chapter 2: Security and Privacy in an Electronic Age**

Chapter 2 deals with the problems of security and privacy of information in electronic form and on networks. Both general issues of security and privacy in an electronic age and problems specific to health care are discussed. New issues of security and privacy are raised by new laws. The student is introduced to the Health Information Portability and Accountability Act of 1996 (HIPAA) that provides the first national minimum standards for the privacy of medical information. The book also deals with the effects of the USA Patriot Act on medical privacy.

**Chapter 3: An Introduction to Medical Informatics and the Administrative**

Applications of Computers Chapter 3 is an expanded introduction to medical informatics—the use of technology to organize information in health care. The student is introduced to the traditional classifications of clinical uses of computers (used in direct patient care); administrative uses of computers used in office administration, financial planning, billing, and scheduling; and the special purpose uses of computers in education and pharmacy. The chapter has an expanded section on the administrative uses of computers discussing the computerization of tasks in the medical office, the electronic medical record, and bucket billing. It also introduces the student to grouping and coding systems, insurance, and the various accounting reports used in the health care environment. Chapter 4: Telemedicine Chapter 4 deals with telemedicine and its rapid expansion. Telecommunications and connectivity have made possible telemedicine, from the simple sharing of patient records or X-rays over networks, to distance exams, to remote operation of medical instruments, to teleconferencing. The earliest telemedicine used store-and-forward technology to send images. This is still used in teleradiology, telepathology, teledermatology, telestroke programs, and telecardiology programs. Interactive videoconferencing allows a medical exam in real time with all participants seeing and hearing each other. Chapter 5: Information Technology in Radiology Chapter 5 introduces the student to digital imaging techniques. Digital images (CT scans, MRIs, PET scans) are more precise than the traditional X-ray. The CT (computerized tomography) scan and MRI (magnetic resonance imaging) have become standard diagnostic tools. PET scans (positron emission tomography) allow the physician to examine the electrical and chemical processes in the brain. Currently interventional radiologists treat diseases that once required traditional surgery. Chapter 6: Information Technology in Dentistry A new chapter that surveys computer technology in dentistry has been added. Dentistry is changing due to changing demographics and the introduction of new computer-based techniques. During the second half of the twentieth century, dental care allowed most children to grow up with healthy teeth. Now good dental care prevents cavities in children who can afford it. An aging population seeks dental care for many reasons, including cavities, periodontal disease, and cosmetics. The fully computerized dentist's office uses the electronic medical record to integrate all aspects of care. Chapter 7: Information Technology in Surgery Chapter 7 surveys the uses of computers in surgery. Computers are used in surgery from the teaching and planning stages to the actual use of robotic devices in the operating room. Computer simulations help in the training of students. Minimally invasive, endoscopic surgery makes use of robotic devices to hold the endoscope. Chapter 8: Information Technology in Pharmacy The use of computer technology in pharmacy has traditionally been considered a special purpose application. Today, information technology is involved with medication from its design to its administration. The development of medications for the treatment of genetically-based diseases is slowly becoming a reality because of the knowledge gained through the Human Genome Project. Supercomputers, using special software, are now being used to design new medications. Software packages allow pharmacies to print out extensive drug descriptions along with side effects and interaction warnings that accompany prescription medications. Computerized infusion pumps automatically administer medication. The networking of medical devices allows a monitoring device to communicate with a drug delivery device. Robots are being used to fill prescriptions and count out capsules and tablets. Telepharmacy is expanding due to a shortage of pharmacists, a drive to cut costs, and the interest of the U.S. Department of Defense, Veterans Administration, and Immigration and Naturalization Service. Chapter 9: Computerized Medical Devices, Assistive Technology, and Prosthetic Devices Computer controlled medical devices include the most established clinical use of computers—the use of computerized monitoring devices. For people with disabilities, adaptive technology can make an independent life a reality. Electronic prosthetics refer to computerized replacement body parts. An artificial limb designed with the help of a computer with embedded microprocessor chips can sense and react to nerve signals. It can work like a natural limb so that a person with an electronic prosthetic foot can even participate in college sports. Some devices, such as pacemakers, make use of the technology called functional electrical stimulation, which delivers low-level electrical stimulation to muscles. Chapter 10: Informational Resources: Computer-Assisted Instruction, Expert Systems, and Health Information Online Computer-assisted instruction, both drill-and-practice and simulation, has long been used to educate patients and practitioners. Currently programs make use of virtual reality techniques, so the student actually feels the experience of performing a medical procedure. Online medical literature databases aid in both academic research and diagnosing patients. Expert systems try to make a computer an "expert" in one field. Interactive self-help applications include both self-help software and the use of the Internet for medical advice. Advice and information on every aspect of health care, every drug, and every disease is on the Internet. Chapter 11: Conclusion and Future Directions Computer technology is continuing to have an enormous impact on health care fields. Today, medical technology is in a constant state of flux. Whole new fields, such as telemedicine, are emerging and changing the way medicine is practiced. The future may hold unbelievable techniques and devices. Electronic brain implants are in their infancy, holding the promise of communication for locked-in patients as well as the threat of mind control. Other devices are currently in the testing stages. Not only are sensors being developed to help paralyzed patients move. In the future, nanotechnology may diagnose and treat disease at the molecular level.