Chapter XXV
Physicians and the Utilization of Information Technology

James W. Holsinger, Jr.
University of Kentucky, USA

ABSTRACT

This chapter introduces the issues faced by physicians in interacting with information technology (IT). It argues that the needs of physicians must be taken into consideration in order for successful implementation of information technology systems to occur. Physician professionalism and the development of their IT competence must be understood as well as understanding the need for physicians to acquire IT skills. The personality of physicians and the issues of their dissatisfaction with their profession are key elements for understanding physician engagement with IT. The Dreyfus model of skills acquisition may play a useful role in developing physicians' IT skills. The author hopes that understanding the need for physician involvement in the development of information technology solutions in healthcare, as well as their level of IT skills, will assist healthcare organizations in the successful implementation of information technology both in heathcare institutions and physician practice settings.

INTRODUCTION

The role of physicians in the delivery of healthcare has continued to evolve over the past fifty years. During this period a growing divergence of professionalism and personal expectations has occurred for physicians, often resulting in their inability to meet them. A variety of factors have encroached on physician autonomy which has long been the ascendant professional value of physicians. As the underlying and practical realities of health care systems have changed, the professional values and practices of physicians have failed to adapt in a corresponding manner. The development of information technology and its application in the practice of medicine both within institutions and in the physician office setting may be seen as a major component in the changing medical practice environment. A "professionalism gap" may be present leading to physician dissatisfac-

tion with their professional life, of which the use of information technology may be representative. As such, the profession may be better served by developing a new values framework that conforms to the 21st century healthcare system. To do so will require the forgoing of the 20th century's preferred "independent physician" model in favor of a new professional structure based on teamwork and collaboration. The use (or lack thereof) of information technology both in institutions and in the office setting may be indicative of the quandary in which physicians find themselves as their professional values move from being individual based to being formed through teamwork and collaboration. Convincing established physicians to embrace such a model may be difficult, but opportunities exist for significant progress among a new generation of physicians accustomed to 21st century practice models and health information technology.

PROFESSIONAL COMPETENCE

Competence is a core component of every profession, including medicine. Professional competence may be defined as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served" (Epstein & Hundert, 2002). These authors find that acquiring and using knowledge in the practice of medicine, integrating biomedical and psycho-social data, and relating through communicating effectively are important concomitants in the professional practice of medicine. They point out that competence is based on tacit knowledge which they define as "that which we know but normally do not explain easily, including the informed use of heuristics (rules of thumb), intuition, and pattern recognition" (Epstein & Hundert, 2002). In an editorial, Leach (2002) enumerates the six general competences of a physician regardless of the specialty practiced: "patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice." The acquisition of skills leading to competence is a developmental process, developed over time and based on understanding experiences resulting in habit formation. As will be discussed later, the utilization of information technology in the practice of medicine is thought to result in a higher quality of health care. "Physicians need to have the integrity, motivation, and capacity to discern good learning and good health care but should be restless until they get it right" (Leach, 2002).

Professionalism is a key component of professional competence. Several factors can impede physicians in their development of professionalism including "stress and lack of experience, support, and training [which] can lead to uncertainty about appropriate professional behavior and attitudes" (Brennan and Coles, 2003). It is a truism that the practice of medicine is always changing and it is clearly important for physicians to stay abreast of current developments and to develop self-motivation in order to undertake the necessary continuing learning required of a professional person (Gibson, Kartsounis, & Kopelman, 2006). The acquisition of skills competence requires being engaged enough in acquiring skills to be accountable. The Dreyfus model of skills acquisition requires moving through a series of five stages in order to become competent. To do so requires "less detachment and greater immersion in particular contexts" (Leach, 2002). The Dreyfus model may be useful in acquiring the skills necessary to become competent in the utilization of information technology.

THE DREYFUS MODEL

The Dreyfus model is a developmental process of skill acquisition which is based on experiential learning and situated performance. "Stuart E. Dreyfus, an applied mathematician, and Hubert