

# Chapter XL

## Systems Thinking as the Model for Educating Future Healthcare Managers in Information Technology

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### ABSTRACT

*This chapter explores the individual competencies presented by various healthcare executive organizations as being important for healthcare leaders to emulate in the exchange of information and knowledge. These competencies provide a set of tools that healthcare leaders can use to make their organizations successful in the healthcare systems and knowledge management (KM) environment. Several possible ways these can be instilled within the academic setting are presented. Systems and KM paradigms, such as organizational learning and memory, are superordinate metaphors that provide an approach to analyzing organizational capability through an understanding of processes occurring in healthcare organizations.*

### INTRODUCTION

This chapter will be framed around a discussion of **information technology** and the core competencies that will be required for the healthcare executive in our “wired” healthcare environment. The

key issues regarding information technology are what should be taught (subject area or discipline area), and to what level (a simple knowledge of, or a skill area with the ability to negotiate, analyze, develop, and execute)?

Answering these two broad questions would seem to require an international perspective based largely on the organization of the health care system in a particular country, and the degree of autonomy it offers to the practicing health care manager. However, as will be developed in this chapter, the complexity of technology implementation would seem to span health care system differences among countries. IT management is an integrating competency (a domain) involving people as individuals and as teams, organizational design, organizational culture, and more. The need for the health care manager is training in “**systems thinking**” rather than information technology as a distinct discipline.

Issues related to core competencies in the United States for the future healthcare executive are presently being debated by a number of agencies and collaboratives. This includes the principal academic accreditation agency, the Commission on Accreditation of Healthcare Management Education (CAHME). Other entities seeking to define core competencies include the National Center for Healthcare Leadership (NCHL), the American College of Healthcare Executives (ACHE), the Medical Group Management Association (MGMA), and the Healthcare Leadership Alliance (HLA). The range of coverage any of these groups has into the international community will be identified, as will similar organizations operating outside the United States.

This chapter will identify and discuss the various initiatives and recommendations these groups are developing to define the core competency of the healthcare executive, and how that relates to information technology. The organizations identified above in the United States all have a defined area of “**Information Technology**”. The level of demonstrated competency for the healthcare executive varies considerable. By that we mean some levels of competence consider IT as a complex specialty outside their expected area of expertise, and propose that executives demonstrate a “knowledge of” various applications. Other recommendations suggest that IT

be a skill area, with skills including some or all of the pertinent abilities -- the ability to negotiate, analyze, develop, and/or execute. We do not propose to provide a solution to the debate. We only propose to identify and detail the issues, and make recommendations as to how educators might address IT management.

The core competency area is not limited to IT. Other competency areas for possible inclusion would be systems thinking, leadership skills for change management, and strategic orientation, formulation and implementation. Given the range of competency areas related to IT management, the chapter will discuss an alternative framework of “knowledge management”. The knowledge management framework is demonstrative of the “systems thinking” competency of the ACHE, which encompasses all aspects of the healthcare curriculum and can be applied to the IT application area, defined as clinical versus business applications.

There is at least one last area the chapter will address, that being the characteristics of the health care systems themselves in different countries. The planning for and implementation of IT systems in those countries with centralized health care systems may be through a health care ministry or similar entity. In the United States, that would not happen except for governmental systems such as the Veterans’ Administration. So, healthcare executives in the United States may be more involved in planning and implementation than their counterparts in other countries such as Canada or the UK.

## **WHAT IS A COMPETENCY?**

Welton (2007) discussed the lack of clarity in the use of the term “**competency**” as it is used in the healthcare management field. Competencies as used by the various organizations and agencies in the United States that address healthcare management may be framed as stand alone skills, knowledge and abilities that are generic

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