Chapter 1.20
Issues in Clinical Knowledge Management:
Revisiting Healthcare Management

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ABSTRACT

The objective of this chapter is to examine some of the key issues surrounding the incorporation of the Knowledge Management (KM) paradigm in healthcare. We discuss whether it would it be beneficial for healthcare organizations to adopt the KM paradigm so as to facilitate effective decision-making in the context of healthcare delivery. Alternative healthcare management concepts with respect to their ability in providing a solution to the above-mentioned issue are reviewed. This chapter concludes that the KM paradigm can transform the healthcare sector.

INTRODUCTION

In today's information age, data has become a major asset for healthcare institutions. Recent innovations in Information Technology (IT) have transformed the way that healthcare organizations function. Applications of concepts such as Data Warehousing and Data Mining have exponentially increased the amount of information to which a healthcare organization has access, thus creating the problem of "information explosion". This problem has been further accentuated by the advent of new disciplines such as Bioinformatics and Genetic Engineering, both of which hold very promising solutions which may significantly change the face of the entire healthcare process

from diagnosis to delivery (Dwivedi, Bali, James, Naguib, & Johnston, 2002b).

Until the early 1980s, IT solutions for healthcare used to focus on such concepts as data warehousing. The emphasis was on storage of data in an electronic medium, the prime objective of which was to allow exploitation of this data at a later point in time. As such, most of the IT applications in healthcare were built to provide support for retrospective information retrieval needs and, in some cases, to analyze the decisions undertaken. This has changed healthcare institutions' perspectives towards the concept of utility of clinical data. Clinical data that was traditionally used in a supportive capacity for historical purposes has today become an opportunity that allows healthcare stakeholders to tackle problems before they arise.

Healthcare Management Concepts

Healthcare managers are being forced to examine costs associated with healthcare and are under increasing pressure to discover approaches that would help carry out activities better, faster and cheaper (Davis & Klein, 2000; Latamore, 1999). Workflow and associated Internet technologies are being seen as an instrument to cut administrative expenses. Specifically designed IT implementations such as workflow tools are being used to automate the electronic paper flow in a managed care operation, thereby cutting administrative expenses (Latamore, 1999).

One of the most challenging issues in healthcare relates to the transformation of raw clinical data into contextually relevant information. Advances in IT and telecommunications have made it possible for healthcare institutions to face the challenge of transforming large amounts of medical data into relevant clinical information (Dwivedi, Bali, James, & Naguib, 2001b). This can be achieved by integrating information using workflow, context management and collaboration tools, giving healthcare a mechanism for

effectively transferring the acquired knowledge, as and when required (Dwivedi, Bali, James, & Naguib, 2002a).

Kennedy (1995, p. 85) quotes Keever (a healthcare management executive) who notes that "Healthcare is the most disjointed industry…in terms of information exchange… Every hospital, doctor, insurer and independent lab has its own set of information, and … no one does a very good job of sharing it." From a management perspective, these new challenges have forced healthcare stakeholders to look at different healthcare management concepts that could alleviate the problem of information explosion. The following are some of the new paradigms and concepts that have caught the attention of healthcare stakeholders.

EVIDENCE BASED MEDICINE (EBM)

EBM is defined as the "conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients" (Cowling, Newman, & Leigh, 1999, p. 149). A typical EBM process starts with an identification of knowledge-gaps in current healthcare treatment processes, followed by a search for the best evidence. This is then succeeded by a process to aid in the selection of appropriate electronic data/information sources and IT applications that focus on clinical competencies in the context of the best evidence generated.

The next step is to carry out a critical appraisal of the best evidence identified by carrying out checks for accuracy and diagnostic validity of the procedure/treatment identified by the best evidence generated. The costs and benefits of alternative procedures (i.e., the current best evidence procedure/treatment being recommended) are then considered. The last step is its application to patients' healthcare which calls for integration of the best evidence with the General Practitioners' (GP) clinical expertise so as to provide best treatment and care (Cowling et al., 1999).

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