Foundations of a Healthcare Knowledge Management Application System

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Much of the knowledge management (KM) literature suggests that organizations should adopt either a "personalization" or "codification" strategy and that to mix the two is unwise. Two European schools have come to the conclusion that a broad strategy is needed. Its key conceptual elements are in three dimensions: the type (explicit - tacit), focus (information - learning) and organization (digital – social) of knowledge. Without this broad approach it is impossible to reconcile the wish to provide (codified) evidence-based solutions to populations at the same time as personalized care for individuals.

Keywords: Knowledge, Learning, Knowledge Management.

Background, design and implementation

Much of the classic knowledge management literature suggests that organizations either have large numbers of routine tasks that can be codified, or they have a smaller number of unique tasks that need personalized solutions. However, in healthcare a number of concepts (see Table 1) from different fields need to be understood and effectively used if the general goal of improving healthcare delivery is to be attained.

Both *Knowledge* and *Learning* have been categorized in different taxonomies, each with useful practical applications[1]. *Organization and administration* when applied to knowledge-based information systems similarly subsume different intentional meanings, like technical, organizational, conceptual, policy-related issues[2].

The experiential learning of both authors is that a broad approach is needed in clinical knowledge management. One of us (SdeL), described a model for KM in primary care that identifies four large domains: Evidence-based Medicine (EBM), Clinical Audit, Communities of Practice, and Mentorship. The "Primary Care Data Quality Program (PCDQ)" and the "National electronic Library of Health – Primary Care" are case studies from the UK that convey the need for a broad approach to meet different practitioners needs[1].

Likewise the implementation of a hospital-wide KM system in Udine, Italy supports the need for a broad approach. A third dimension, that of the socio-digital organization, had to be added to the technical for the healthcare managers and professionals to understand and take on active roles within a "learning organization". The Knowledge Centre initiative is a case study that offers some insight in the Intranet domain[3]. During 2002-2003 the KM initiative started, and a number of EBM educational activities have been organized. A digital library of >600 journals has been implemented; along with a company-wide electronic clinical record, and statistics from management databases. Information has been regularly fed back to clinicians. For year 2004 the main focus has been on supporting and integrating physician-initiated activities within the clinical audit cycle. There are striking similarities between these developments; mainly a combination of digital library and audit-based education. Both groups recognize the importance of mentorship and networks if knowledge is to be translated into clinical care.

Table 1 –Model for KM in Healthcare

	Digital Application	Social Organization
	Explicit Knowledge	Tacit Knowledge
Information focus	*EBM Domain :* EBM, E-Literature Patient E-Records, Factual Databanks, Telemedicine Guidelines Managed Care	*Communities of Practice Domain:* Intranets E-Communities Social Communities Narrative-based Medicine
Learning focus	*Audit Domain:* E-Learning Clinical Audit Healthcare Research Personal Development	*Mentorship Domain:* Expert Systems Mentorship

Evaluation

A set of surveys sampling attitudes, pre-existing knowledge and competencies, and information and knowledge needs physicians have been developed and administered, and will be administered again after the introduction of KM-related technologies and approaches[3]. This data supports the hypothesis that clinicians have a range or learning styles, and knowledge needs. Those engaged in clinical knowledge management are encouraged to adopt a broad approach, and not to look for single application or activity based solutions.

References

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