INTRODUCTION

The Problem of Medical Decision-Making

Making appropriate decisions about patient care relies on making connections between:

- Information about the patient’s condition: This includes pathology tests, X-rays, observations, examinations and medical records.

- Medical knowledge: This includes knowledge about diseases, their symptoms, causes and treatments.

To do this effectively, clinicians need to take into account all relevant medical research and integrate it with detailed data about the patient’s condition.
condition. This is an extremely difficult task, not least because it is estimated that the amount of medical knowledge doubles every five years (Weed, 1997). Staying abreast of the latest developments in medical research therefore represents an enormous intellectual challenge for clinicians. Faced with information overload, doctors often fall back on global judgements based on experience rather than thorough analysis of the relevant medical literature. As a result, medical practice is surprisingly anecdotal and experience-based rather than being based on scientific fact and empirical results.

**Knowledge Management**

Over the last decade, there has been a major shift in the world economy from the production of goods to the provision of services. This has been hailed as a transition from an industrial economy to a *knowledge economy* (Sveiby, 1997). Managing knowledge has become a major concern in many organizations today and is increasingly being seen as a source of sustainable competitive advantage (Broadbent, 1997; Hansen et al., 1999; Nonaka & Takeuchi, 1995). While there are many different approaches to knowledge management, their objectives are the same: to make more effective use of “know-how” and expertise in an organization (Martin, 1999).

*Knowledge* is a high value form of information that can be used to make decisions and take action (Davenport et al., 1998). A key difference between knowledge and information or data is that it is intellectually intensive rather than IT-intensive; knowledge is the result of human interpretation and analysis rather than data processing. Knowledge can be classified as either:

- **Tacit**: knowledge stored in people’s heads.
- **Explicit**: knowledge which has been written down or codified.

Explicit knowledge is the more familiar form of knowledge and is found in books, manuals and reports. Tacit knowledge is a much higher value form of knowledge, because we always know more than we can say (Sveiby, 1997). To be able to apply explicit knowledge to make decisions or take action, it must be made tacit. For example, you must read and understand a book in order to be able to apply the knowledge it contains.

**Evidence-Based Medicine**

Access to the latest medical research knowledge can mean the difference between life and death, an accurate or erroneous diagnosis, early intervention or a prolonged and costly stay in hospital (Ayres & Clinton, 1997). However research findings take a long time to filter into medical practice (Phillips, 1998). Empirical studies have shown that on average, there is an 8-13 year time lag (depending on the specialty) between a treatment being proven to
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