Chapter XXVI
Knowledge Management in Medicine

Nikolaos Giannakakis
National and Kapodistrian University of Athens, Greece

Efstratios Poravas
National and Kapodistrian University of Athens, Greece

ABSTRACT

In the last decades, the amount of information has risen because of the technology revolution. The need for organizing information, in a way that the staff and the managers of a hospital require, lead to the generation of a new value, the knowledge management. Its benefits are sensible, not only for the staff, but also for the hospital as an entity. Many techniques are applied to solve all the daily problems in the health sector.

INTRODUCTION

During the last three decades of the previous century, there was a revolution in technology and its applications in medicine and the field of information. The promotion of knowledge and its communicability certainly have profited all the scientific sectors, both in the increase of efficiency and productivity, and in the growth of innovations.

Knowledge management is a notion that is difficult to define. A lot of definitions have been formulated, one of which is that knowledge management is an organism that is constituted of small parts that aim to collect, assess, unify, improve, and produce value from intellectual and information-based resources (Association of State and Territorial Health Officials [ASTHO], 2005).

Progress in medicine is essential; there has always been the mass production of knowledge, and those who are related to this science should take it into account, develop it, and apply it. Traditional sources of information are available, but they usually fail to provide answers whenever and wherever they are needed. Thus,

roughly two thirds of problems in clinical practice remain unsolved (Gale Group, 2001). Unfortunately, the information and knowledge that are available to doctors nowadays are poorly organized and old.

In the healthcare field, doctors and patients need help with the choice of better actions for a given situation. The rate of growth and change in worldwide biomedical knowledge leads to the fact that no one is able to know the current practices in a sector without any kind of support (Purves & Robinson, 2003). A partial solution to this problem can perhaps be brought by medical knowledge management. Its aim is the regrouping, incorporation, and connection of any medical knowledge that was produced in the past in order for one to reach a reasonable decision in the present and useful study in the future (Quantum Enterprises, Inc., 2003).

Generally, knowledge management in the medical field can ensure the effective growth and dissemination of better practices, and a continuous assessment aiming at their improvement. Knowledge is created within time. All the data that constitute its base become information when they can be summarized and organized under reasonable models. Information becomes knowledge when it can be managed for active decision making, and knowledge can be turned into perspicacity when it is well developed within regular periods of time (Lobodzinski & Criley, n.d.).

USE AND VALUE OF KNOWLEDGE MANAGEMENT

The continuous effort toward efficiency and economic effectiveness creates a balance among the quality of provided services, and it includes costs that lead to the more effective management of medical knowledge that is derived from biomedical research. The need for a clinical process in the providing of medical care is rather obvious (Stefanelli, 2002). Thus, knowledge management in the field of medicine focuses on the knowledge of technologies used in clinical, administrative, and demographic activity. Today, the pressure of cost also influences the sector of health. The adoption of information technology is considered one of the basic mechanisms for the reduction of cost ("Data and Knowledge Management in Healthcare," 2005).

The society of public health is continuously focused on digital communication for the fulfillment of different kinds of tasks. Although technology has improved for the possibility of the collection, analysis, and dissemination of data, there are still obstacles in the use of information, such as the existence of information that is not well organized and systems that are not complete. The continuous improvement of technology, the lack of resources, the failure to confirm the requirements of data, and complicated data have led experts to the use and exploitation of existing knowledge for the promotion of health (Data and Knowledge Management for Public Health, 2005).

Through knowledge management we can certainly reduce the gap between the lack of data and the lack of systems that develop those data. Starting with the presumption that every problem has a solution, the effective management of knowledge in the health sector can constitute the base of knowledge, which is essential for the presentation of its innovations and distribution in a dynamically regenerative process (Bailey, 2003). Generally, there is a framework in hospitals that can be used as a driver for the management of knowledge. This is a methodology that helps with the designing of a strategy and its processes, and that enriches the transmission of knowledge and tools that support the collection and analysis of knowledge, and the storage and search of informa-