

Erp solutions in healthcare essay

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Enterprise resource planning (ERP) software applications are designed to facilitate the systemwide integration of complex processes and functions across a large enterprise consisting of many internal and external constituents. Although most currently available ERP applications generally are tailored to the needs of the manufacturing industry, many large healthcare systems are investigating these applications. Due to the significant differences between manufacturing and patient care, ERP-based systems do not easily translate to the healthcare setting. In particular, the lack of clinical standardization impedes the use of ERP systems for clinical integration. Nonetheless, an ERP-based system can help a healthcare organization integrate many functions, including patient scheduling, human resources management, workload forecasting, and management of workflow, that are not directly dependent on clinical decision making. Enterprise resource planning (ERP) systems are a new type of software that enables companies to integrate business functions—including finance, human resources, operations, sales and distribution, and marketing—across their organizations. Companies throughout the world are increasingly converting to these systems.

Major corporations that have implemented ERP systems in recent years include IBM, Microsoft, Eastman Kodak, and Hershey. Purchases of ERP systems reached \$10 billion in 1997, a 40 percent increase from 1996, and industry analysts suggest that rapid growth is likely to continue through 2001. [a] To date, the growth of ERP systems has been concentrated in the manufacturing sector, but large healthcare systems have begun to take an interest in these applications. As a result, vendors are developing ERP

applications that offer administrative and logistical solutions for large healthcare systems. The key question for a healthcare provider is whether an application originally designed with the manufacturing industry in mind, focusing as that industry does on management of production lines and logistics, translates well to the healthcare industry, which focuses primarily on managing staff costs and clinical processes. Indeed, it is reasonable to assume that because healthcare providers have inherently different cost concerns and behaviors than manufacturers, successful implementation of an ERP system in a healthcare organization would require a quite different approach than that used by manufacturers.

Production Lines versus Patient Care

A comparison of the chief characteristics of the manufacturing and patient care processes discloses several important differences between these processes that shed light on how an ERP system needs to be adapted for use in health care.

The basic focus of the manufacturing process is to transform raw materials into finished goods. In a typical production line, inventories for raw materials, work in process, and finished goods must be coordinated with production schedules to minimize working capital investment. In essence, the raw-material inventories are stocked and production schedules developed to produce inventories of finished goods needed to meet sales forecasts.

An ERP system can help a manufacturer integrate and coordinate all of the functions of the manufacturing process using standard messaging formats that allow data to be shared among all internal and external constituents in the supply chain. For example, an ERP system enables a manufacturer to use

data on expected sales and customer needs from sales-management and customer-service systems within the production-management process to more accurately forecast inventory requirements. The manufacturer's sales department then can use the finished-goods forecasts to manage customer expectations and focus sales efforts. An ERP system also can be used to facilitate the manufacturer's sharing of inventory and sales forecasts with key suppliers, which can use the data to more effectively meet the manufacturer's needs. By contrast, costs in a healthcare organization are much more difficult to forecast because a healthcare provider must manage many different processes, each having different, and often unpredictable, outcomes. Indeed, the treatment of every patient varies to some degree in terms of processes, staffing, and facility usage.

In addition, because healthcare delivery processes tend to be labor-intensive, the primary cost driver for healthcare organizations is labor, unlike manufacturing, where the primary cost driver is raw materials. Thus, although healthcare providers, like manufacturers, need to optimize their return on assets, their primary focus must be on managing staff and care processes. Therefore, their ERP systems must be designed with these functions in mind. The complexity of the healthcare industry also adds to the challenge for healthcare organizations that wish to convert to using ERP systems. Health care relies upon a network of relationships between physicians, hospitals, laboratories, insurance companies, government agencies, employers, and patients, and all of these relationships must be accounted for in the ERP system.

In addition, large healthcare systems must coordinate the activities of various provider entities that may have significantly different resource requirements.