

Risk management information system for healthcare institutions

Abstract:

Risk management has nowadays a crucial role in institutions, since it aims to minimize the likelihood of adverse events and contributes to improve the quality of provided services. In the healthcare institutions, an effective risk management is only possible if supported by information systems that can produce the right quality and risk indicators. These indicators allow organizations the self-assessment, by identifying gaps and opportunities for improvement in several areas, being fundamental for benchmarking, accreditation and certification processes. Additionally, monitoring of specific indicators is being required by the tutelage. However, the development of a risk management system can be an arduous process, due the inherent complexity of clinical systems. This project aims to design and develop a risk management information system for healthcare institutions and it is being developed at the Hospital Center of Trás-os-Montes and Alto Douro, EPE (CHTMAD).

Description:

The concept of clinical risk is recent and it is defined as an event that has a negative effect, direct or indirect, on the quality of health care, and may threaten the safety of patients, cause high operational costs or affect the image of the involved institution. Clinical risks may be related to the provision of care (acts, materials and products, ethical and information risks), to the hospital's structure (fire occurrence, electricity failures, computer failures, lack of water) or to the organization of the institution (loss of human resources, lack of protocols, nonconformity, patient transport, accidents, strikes and frauds) (Judson, 1998).

The creation of an information system to support risk management in a hospital is essential for its proper operation, as it ensures a good record, organization and easy access to data. Also allows the implementation of benchmarking processes, which can be defined as "the process of identifying, learning, and adaptation of practices and processes of any organization, anywhere in the world to help the organization improve its performance" (Morgan, 2000). It is a useful management tool to improve business performance and gain advantages over the competition, being a systematic structured step by step in order to evaluate the methods of work (Camp, 1989). Its main advantages are (NHS, 2007): to introduce new concepts of evaluation, setting viable and realistic goals, with the identification of areas for improvement; create planning priorities, improving the knowledge of the organization; and promote knowledge of the competitors and the level of competition in the market, being a method of learning and comparison with the best.

The information system of a hospital center can be very complex, as it many times comprises dozens of subsystems that use different technologies and have severe integration problems. This can be an obstacle to the development of a risk management information system, because most of the data required to produce quality indicators normally can be found on existing information subsystems of hospitals. Typically the data in these subsystems is stored in different formats and structures. So to produce quality and risk indicators (Fig. 1) it is necessary to consolidate data from several sources and formats (Fig. 2). Inclusively, some data can be on paper support.

This project is focused on: identifying the relevant quality indicators to be produced by the new risk management information system (clinical indicators, non-clinical indicators, management indicators and benchmarking indicators); characterizing the data required to produce the required indicators; creating the information system architecture; designing the information system; developing the information system; implementing the information system.

By one hand, the development and implementation of a system of this kind can be a major endeavor for a hospital because of the complexity of existing systems and of the challenging integration requirements. By other hand, can be one of the most compensating efforts, since it is a critical system for the hospitals' capability to plan and control risks.

References:

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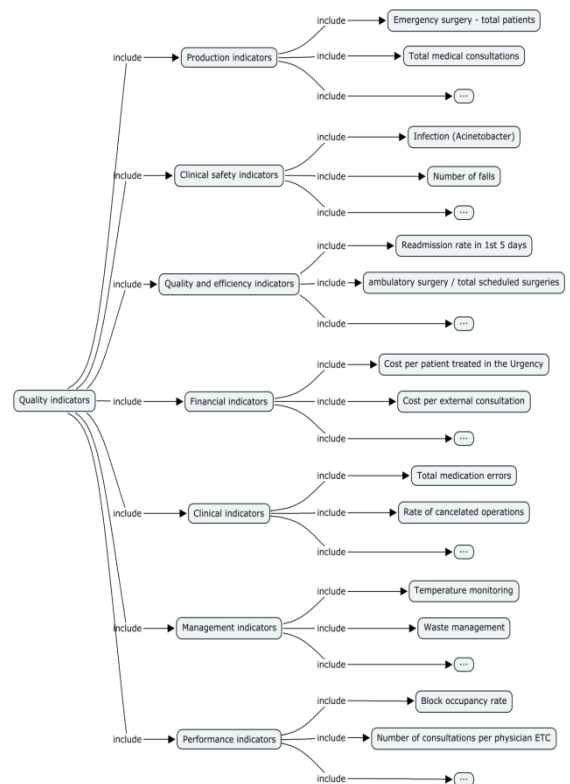


Fig. 1. Categories and examples of quality and risk indicators (Costa et al.)

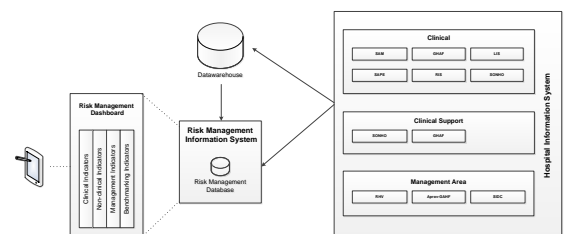


Fig. 2. Risk management information system architecture for a hospital center (Costa et al.)