

Redesign of Hospital Information System to Support the New Model of Italian Hospitals Based on the Intensity of Care

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Abstract

The Italian National Health Care is facing a redesign phase characterized by a new organizational model applied to hospitals, called "lean thinking model". The re-organized hospitals are defined "Hospital organized according to the Intensity of Care". According to the modification of hospital organization, also the information system has to be adapted. This work aims to describe the re-engineering of the Hospital Information System (HIS) currently utilized in the hospital of Porretta Terme, one of the first Italian hospitals that has introduced the new model. The evaluation of the functionalities of the pre-existing HIS of Porretta Terme, the platform called "AR-EAS" developed by Engineering, led to the conclusion that

this System was not appropriate to manage the new organizational model. The platform were reengineered and aligned to the new requirements. In conclusion, we can assert that our redesign brought two advantageous results, firstly we introduced new features to increase the coherence with the new hospital organization. Secondly, it was possible to set up a set of indicators. They have demonstrated that the new organization led to the better reuse of beds and the allocation of the staff was more efficient with the consequent reduction of wastage.

Keywords

Lean thinking, software engineering, intensity of care, medical informatics

Decision Support System for Implantology

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Abstract

Implantology is rapidly developing interdisciplinary field providing enormous amounts of data to be classified, evaluated and interpreted. The analysis of clinical data remains a big challenge, because each new system has specific requirements. The aim of study was to prepare specific tool for treatment planning. Decision support system is built on Expert system. It is interactive software which provides clinical recommendations and treatment planning. Expert systems are knowledge-based computer programs designed to provide assistance in diagnosis and treatment planning. These systems are used for health care (dentistry, medicine, pharmacy etc.). The application contained the medical history analysis to obtaining information useful in formulating a diagnosis and

providing implant insertion and prosthetic reconstruction to the patient; the diagnostic examination of dental implant procedure; implant positioning diagnosis - 3-D measurement; diagnostic information for treatment planning; treatment plan in the form of objective measurement of implant placement that helps surgeon and prosthodontics. The decision algorithm implemented by programming language was used. Core of program was an expert knowledge programming like a decision tree. The analysis of the decision-making process for implant treatment in general practice was prepared and analyzed.

Keywords

Computer program, decision support system, dentistry, expert system, implantology