Development of a System for the Automation and Decision-Making Support in the Monitoring of Transplanted Patients

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Abstract. The Juan Canalejo University Hospital Complex is carrying out the first steps to develop a system for the transplanted patients monitoring, intended to increase the efficiency of the patient health care by automating the observation processes and speed up the medicine prescription, as well as being capable of recognizing risky situations. The patient will also be able to consult the most relevant information in relation to the transplant, follow the treatment and get his doctor’s advice from home. This process will not only improve the patient’s health care and make it a less time consuming process for the doctor but provide us with a vast historical data extremely useful for future studies.

Keywords. Patient monitoring, User interfaces, Data analysis extraction tools, Surgery.

Description

The solid organ transplant is established nowadays as a consolidated therapeutic option for a group of patients with a set of different illness (cardiac, hepatic, pulmonary, renal or pancreatic) in which other alternatives have been proved to be ineffective.

Each Transplant Program has its own team of specialists but most transplanted patients share a large number of common characteristics; in the treatments received during the monitoring process, the health care in general or the risks taken by the fact of being transplanted. The diagnostic and therapeutic decisions are usually subject to established protocols following decision criteria already accepted by international transplant crews and gathered through the scientific literature. In this context, a tool that seeks the improvement of systematic data collection during the monitoring process and facilitates the decision-making to the professionals seems desirable.

This project will provide the clinic team with a decision-making support system, based on rules, to help the diagnostic decision during the monitoring of transplanted patients. It is at this point where we think the project has a great impact. The development of this system could be a milestone in the transplanted patient monitoring since there is no one known to fulfill the proposed objectives, thus, it is feasible and interesting an implantation in other hospitals, which would enrich the application and standardize the procedures for monitorization.