**Personalized Remote Monitoring of Atrial Fibrillation in Patients with Electronic Implant Devices**

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INTRODUCTION: Care management systems are used to support and manage the care of patients (pt) with chronic diseases. Although adopting evidence-based clinical guidelines provide numerous benefits, at the moment they are underutilized in clinical practice due to interoperability problems of different healthcare data sources. The iCARDEA architecture is an intelligent platform for personalized remote monitoring of pts with cardiovascular implantable electronic devices (CIED). The aim is to introduce the iCARDEA care management system for Atrial Fibrillation (AF) in CIED pts, with emphasis on prevention of cardioembolic events and rate and rhythm management.

METHODS: The care plan engine executes the clinical guideline for management of patients with AF by accessing the Electronic Health Record (EHR) systems, the patient maintained personal health records (PHR) and the CIED data through standard interfaces.

RESULTS: The AF care plan is initiated whenever an AF event is detected and the physician is notified automatically by the iCARDEA system. Information about care plan execution steps are provided, and a link is given to a graphical monitoring tool which shows the care plan workflow graphically, allowing seeing the results of each decision step, such as the retrieved EHRs (prior diagnosis, lab results, medical treatment, etc.). For every decision, the care plan engine accesses the EHR and PHR. After a recommendation is presented to the physician, different options are provided, such as guidance on possible doses and major side effects, updating the hospital information system for storing this prescription, or continuing with the rest of the care plan.

CONCLUSION: Through iCARDEA, early detection of AF events will be facilitated. This will facilitate the timely introduction of protective interventions against thromboembolic events, and will enable the anticipation of adverse hemodynamic effects. After completing all the system components including the security and privacy measures, a clinical trial is planned.