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Guidelines implementation

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Personalized Remote Monitoring of Atrial Fibrillation and Ventricular Arrhythmias in Patients with Electronic Implant Devices

E. Arbelo^{1,*}, E. TRUCCO¹, G. B. LALECI², M. YANG³, C. CHRONAKI⁴, L. HINTERBUCHNER⁵, A. GUILLEN⁶, A. DOGAC⁷, J. BRUGADA⁸

¹INSTITUT CLÍNIC DEL TÒRAX, HOSPITAL CLÍNIC UNIVERSITARI DE BARCELONA, BARCELONA, Spain, ²Software Research, Development, Consultation Ltd., ANKARA, Turkey, ³OFFIS, OLDENBURG, Germany, ⁴FORTH-Institute of Computer Science, HERAKLION, Greece, ⁵Paracelsus Private Medical University, SALZBURG, Austria, ⁶MEDTRONIC Ibérica, MADRID, Spain, ⁷Software Research, Development, Consultation Ltd., ANKARA, Turkey, ⁸INSTITUT CLÍNIC DEL TÒRAX, HOSPITAL CLÍNIC UNIVERSITARI DE BARCELONA, BARCELONA, Spain

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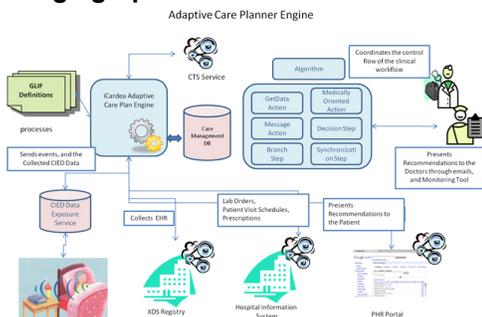
Introduction: Care management systems are used to support and manage the care of patients (pt) with chronic diseases. Although adopting evidence-based clinical guidelines provide numerous benefits, at the moment they are underutilized in clinical practice due to interoperability problems of different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

Objectives: To introduce the iCARDEA care management system for Atrial Fibrillation (AF) and Ventricular Arrhythmias (VT/VF) in CIED pts, with emphasis on prevention of adverse events and and rhythm management.

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

Results: The care plan is initiated whenever an AF or VT/VF 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.

Image/graph I:



Conclusion: Remote monitoring in conjunction with iCARDEA with alert notification is expected to reduce the time from a clinical event to a clinical decision in response to arrhythmias, and to enable a more systematic implementation of the clinical guidelines compared to patients receiving in office care only. After completing all the system components including the security and privacy measures, a clinical trial is planned.

Disclosure of Interest: None Declared