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Conference Abstract

How to implement telemonitoring services in an integrated care model?

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Abstract

Introduction: Congestive Heart Failure (CHF) is a complex syndrome characterized by the inability of the heart to expel sufficient amount of blood needed for metabolic requirements of different organs. As a result, the typical symptoms affecting patient with CHF are dyspnea and fatigue at rest or with reduced physical effort, and loss of appetite, which sometimes appear gradually over days or weeks.

Epidemiological studies indicate that the prevalence of CHF is considerably high affecting 10% of the population older than 70 years old. Due to the population ageing and the increased survival to acute cardiac diseases, CHF is becoming more common, representing a public health problem. In consequence, it will become increasingly difficult to maintain the quality of care of patient suffering from CHF.

In this context, home telemonitoring appears to be a promising alternative to allow healthcare professionals to follow up patient's health status more closely and then facilitating early detection of worsening symptoms. However, the effectiveness of these interventions in real conditions has not yet been sufficiently tested, since the implementation of telemonitoring services is considerably complex. Frequently telemonitoring studies do not overcome the pilot phase and do not reach the expected success when it comes to scale and place the intervention in routine practice.

Aim: Define and implement cost-effective and sustainable telemonitoring services for patients with CHF within an integrated care model where each actor performs the task more suited to his/her position in the value chain.

Timeline: 300 patients will be recruited from May 2014 to January 2015 and each patient will be followed up during 12 months.

Methodology: Definition of crucial aspects of the telemonitoring intervention has been deeply discussed in an inter-organizational and multidisciplinary work group, reaching consensus on how to implement the services within an integrated organizational model.

The working group is composed by: managers (primary care and hospitals), cardiologists, general practitioners, nursing (from primary care, hospital and eHealth Center), Telecare Centre's director and staff from the Department of information systems.

The indicators that will be measured consider health outcomes, patient's quality of life, economic and organizational aspects, patient's perception, and ethical-legal-cultural aspects.

Short description of practice change implemented: The patient who meets the inclusion criteria and signs the informed consent will be enrolled in the intervention. The technical provider will be responsible for installing devices for the measurement of the heart rate, blood pressure, pulse-oxymetry and weight at patient's home within a week after recruitment. In addition, a personal alarm device for 24/7 real-time emergency detection will be installed. The patient will be trained in using the telemonitoring and telecare devices.

Following the clinician's prescription, the patient will routinely transmit his/her parameters at least once per week. The telemonitoring devices collect and send the data wirelessly to the gateway located at his/her home. The gateway device transmits the data collected by the patient to the alarm management system of the _Telecare Centre_.

The operator of the Telecare Centre checks the data sent by the patient and activates the predefined protocol agreed by a group of professionals, including clinicians, general practitioners, nurses, general directors and representatives of the social area. When clinical parameters are out of range, the operator first verifies the alarm situation by a phone call to the patient. If the alarm is validated, the operator triggers the protocol depending on the severity of the situation. The operator contacts the _eHealth Centre_ composed of nurses; they then solve the alarm on their own, notify the _general practitione_ or the _specialist_, or activate _Emergency Department_.

If the patient uses the 24/7 real-time alarm device provided, the Telecare Centre's operator can contact the Emergency Department and/or social services. In addition, the Telecare Centre also solves any technical problems arising in the use of devices.

Conclusions and lessons learned: The conclusions reached at this point of the project are:

- Need of resource re-organization and definition of new roles.
- The organizational model using telemonitoring services model has to be well adapted to the routine practice.
- Complete telemonitoring service has to be provided (device installation, maintenance and user training)
- Need of both administrative management and guarantee of good quality of telemonitored data (avoiding false alarms).
- Patient empowerment leaded by nursing is essential.
- Primary Care is responsible for proactive control of the patients
- Technology is crucial to facilitate both coordinated management of all processes and communication between healthcare professionals.
- Healthcare professionals do not have to deal with different technological platforms; they should work on the Electronic Health Record of each patient.

Keywords

implementation; integrated care; patient empowerment; icts

PowerPoint presentation

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