

# Chapter 6

## An Innovative, Information and Communication Technology Supported Approach, Towards Effective Chronic Pain Management

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### ABSTRACT

*Chronic pain is one of the most common health problems affecting daily activity, employment, relationships and emotional functioning. Unfortunately, the lack of specialized health care personnel, and the high heterogeneity in terms of clinical manifestation and treatment results contribute in failure to manage efficiently and effectively pain. Information and communication technology (ICT) can be a valuable*

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*tool, enabling patients and healthcare professional empowerment and better self-management of pain. To this direction, this article reports on the design of a novel technical infrastructure to support effectively and efficiently chronic pain management, based on an Intelligent Personal Health Record platform on top of already available ICT tools. The designed platform targets, among others, at improving the knowledge on the patient data, effectiveness and adherence to treatment and providing effective communication channels between patients and healthcare professionals.*

## **INTRODUCTION**

Chronic pain is one of the most common health problems worldwide (Elliott et al., 1999) and a common cause for patients consulting a doctor (Breivik et al., 2005; Eriksen et al., 2003). Pain is defined as being chronic or long-term when it lasts for longer than 3 to 6 months, or beyond the normal healing time of an injury. Classifying pain is helpful to guide assessment and treatment whereas, there are many ways to classify pain and classifications may overlap (International Association for the Study of Pain, 2011). People with chronic pain often experience high levels of disability (Blyth et al., 2003) and are adversely affected on areas including daily activity, employment, relationships, and emotional functioning (Breivik et al., 2005). Impairment due to chronic pain leads to high levels of work absence and dramatically increases health care needs. In addition, pain imposes a huge financial and psychosocial burden on patients, their families and society (Andersson, 2009; Gore et al. 2012; Gustavsson et al. 2012; Nitter, 2013; Waddell & Nordlund 2000). According to (Elliott et al., 1999) patients suffering from chronic nonmalignant pain constitute a heterogeneous population in terms of clinical presentation and treatment results.

Chronic pain is associated with many different diagnostic entities ranging from diseases like, e.g. osteoarthritis, low-back pain and other musculoskeletal conditions to neuropathic pain conditions like painful diabetic polyneuropathy and pain following a stroke or multiple sclerosis. Due to this, treatment also varies from patient to patient and may include pharmacological treatments, neuromodulation, physiotherapy, multimodal rehabilitation. According to (Kroenke et al. 2009) pain and depression are the most common physical and psychological symptoms in primary care. Parallel assessment and treatment of psychiatric comorbidities and sleep disorders combined with traditional rehabilitation, i.e. physical activation and cognitive reorganization are imperative for improved outcomes.

Pain management is one of the most neglected aspects of health care. Chronic pain management is often limited. Pain specialists are able to manage very few patients, while almost half of the patients with chronic pain receive inadequate pain

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