



## Knowledge capture for self management of long-term conditions

McCullagh, P.J., Nugent, C.D., Zheng, H., Zhang, S., Huang, Y., Davies, R., Black, N., Wright, P., Hawley, M., Eccleston, C., Mawson, S., & Mountain, G. (2011). Knowledge capture for self management of long-term conditions. In *Unknown Host Publication* University of Groningen. <http://www.ijic.org>

[Link to publication record in Ulster University Research Portal](#)

**Published in:**  
Unknown Host Publication

**Publication Status:**  
Published (in print/issue): 01/03/2011

**Document Version**  
Author Accepted version

**General rights**  
Copyright for the publications made accessible via Ulster University's Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.


**Take down policy**  
The Research Portal is Ulster University's institutional repository that provides access to Ulster's research outputs. Every effort has been made to ensure that content in the Research Portal does not infringe any person's rights, or applicable UK laws. If you discover content in the Research Portal that you believe breaches copyright or violates any law, please contact [pure-support@ulster.ac.uk](mailto:pure-support@ulster.ac.uk).

Volume 11, 27 June 2011

Publisher: Igitur publishing

URL: <http://www.ijic.org>

URN:NBN:NL:UI:10-1-101508 / ijic2011-71

Copyright: 

---

Poster abstract

## Knowledge capture for self management of long-term conditions

*Paul McCullagh, Computer Science Research Institute, University of Ulster, UK*

*C.D. Nugent, Computer Science Research Institute, University of Ulster, UK*

*H. Zheng, Computer Science Research Institute, University of Ulster, UK*

*S. Zhang, Computer Science Research Institute, University of Ulster, UK*

*Y. Huang, Computer Science Research Institute, University of Ulster, UK*

*R.J. Davies, Computer Science Research Institute, University of Ulster, UK*

*N.D. Black, Computer Science Research Institute, University of Ulster, UK*

*P. Wright, School of Computing Science, Newcastle University, UK*

*M. Hawley, School of Health and Related Research, University of Sheffield, UK*

*C. Eccleston, Centre for Pain Research, University of Bath, UK*

*S.J. Mawson, Centre for Health and Social Care Research, Sheffield Hallam University, UK*

*G.A. Mountain, School of Health and Related Research, University of Sheffield, UK*

*Correspondence to: Paul McCullagh, E-mail: [pj.mccullagh@ulster.ac.uk](mailto:pj.mccullagh@ulster.ac.uk)*

---

## Abstract

**Introduction:** Self-management encourages a person with a long-term condition (LTC) to solve problems, take decisions, locate and use resources and take actions to manage their condition.

**Aims and objectives:** The aim of this paper is to discover appropriate knowledge to facilitate the self-management paradigm. For use in a computing platform, such knowledge must be expressed in digital form in a database.

**Methods:** The SMART2 [1] project is developing a Personalised Self Management System (PSMS) for use in the home environment and in the immediate community for people living with the LTCs: stroke, chronic pain and congestive heart failure (CHF). This system relies on access to clinically validated digital media for therapeutic instruction and appropriate feedback, based on current use.

**Results:** Two approaches to knowledge acquisition were used: (i) obtaining knowledge from the stakeholders, using a user-centred design approach (ii) obtaining knowledge from the PSMS, as the user undertakes activities of daily living in pursuit of their end-goal. We have utilized data mining and classification techniques to quantify PSMS interventions.

**Conclusions:** Knowledge capture requires abstraction of key process used by the stakeholders and the use of data mining procedures to obtain information patterns, which can be used to promote self-management.

## **Keywords**

**self management, chronic pain, stroke, coronary hearth failure, decision support**

---

## **Reference**

1. Engineering and Physical Sciences Research Council. Self-management supported by assistive, rehabilitation and telecare technologies. UK: Engineering and Physical Sciences Research Council; 2008-11. (UK EP/F001916).