Home-based Healthcare Technology

Understanding and Designing to Support the Care Management Work at Home

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Abstract— **Sustaining daily, unsupervised healthcare activities in non-clinical settings such as the private home can challenge, among others, older adults. To support such unsupervised care activities, an increasingly number of reminders and monitoring systems are being designed. However, most of these systems target a specific treatment or condition and might not be sufficient to support the care management work at home. Based on a case study approach, my research investigates home-based healthcare practices and how they can inform future design of home-based healthcare technology that better account for the home setting and people's everyday activities.**

I. INTRODUCTION

My research investigates both illness and preventive healthcare practices and how home-based technology could be designed to support care management work at home. The research questions associated with my thesis are:

- How can home-based care practices inform system design of home-based technology?

- How can home-based technology enhance people abilities doing care management work at home?

- How can designers of home-based technology increase their awareness regarding home-based care practices and support them into their design practices?

The proposed research agenda have two phases (explorative & reflective) that summarize my past, current and proposed work to further study the socio-technical challenges and dynamics of home-based healthcare practices.

II. RESEARCH APPROACH

A. Phase 1: Explorative – Instrumental Case Studies

Initially, along with other researchers, I undertook an istrumental case study approach to get an in-depth understanding of socio-technical challenges and dynamics of health practies for ill and healthy older adults in non-clinical settings. The cases were: a) Medication Management [1-3], and b) Preventive Self-Monitoring [4].

B. Phase 2: Reflective – Multiple Case Studies

Currently my work extended to a "post-project" reflective phase through a multiple case study in non-clinical settings.

Based on the empirical findings from cases a-b, I investigate similarities and differences with two additional cases (from CfPH[1]): c) tele-monitoring, and d) home-based rehabilitation. First, combining cases b and c, a conceptual framework hast been proposed to further understand non-functional aspects of home-based healthcare technology [5]. Second, combining cases a, c and d, we further investigate the design of home-based healthcare technology for everyday life [6].

III. EXPECTED OUTCOMES

With my work, I aim to gain a further understanding of the care management work at home to develop guidelines to inform system design of future home-based healthcare technology. In addition, my work can provide the foundation for an analysis and/or design fraemwork that can suport home-based healthcare design practices. Finally, my prototype (MediFrame [2]) is an additional outcome and I expect to get more insights during the next evaluation (if there is any).

REFERENCES

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1 CfPH: Centre for Pervasive Healthcare