Chapter 53

Applying Social Aspects in Home Telecare Design to Improve the Safety of Users and Quality of Service

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ABSTRACT

Telecare enables remote and cost-effective home treatment of patients, improving the safety and quality of life of frail individuals. However, despite increased availability of telecare devices, many are not fully used and often ignored due to poor social perception and experience. The research suggests the social aspects of quality and safety related to user experience have not been considered. This can lead to misuse or non-use of telecare devices, reducing patient safety and quality of life. This chapter explores the implications for the lack of social considerations in telecare and develops a series of models and methodologies to integrate the social dimension with the traditional medical intervention focus. By applying semiotics and normative behavioural theory, the authors show how a Normative Home Telecare Framework can improve telecare solution design and ensure take up and use of the devices and increase patient safety and life quality.

1. INTRODUCTION

Telecare and telehealth safety issues are adverse events, errors and near misses that compromise the wellbeing of users and service provider staff. Safety issues include emotional and social issues of providing service into the home besides the physical and clinical issues prevalent in telecare. It is stressing enough for a user to cope with aging, illness or a condition the limits one’s function. The stress may increase by the introduction of technology into the homecare as the care of an increasing number of conditions is moved from the hospital into the home. Safety risks can be introduced by the system, equipment or human beings. Patient safety in acute and hospital environment is viewed as an issue occurring in a controlled environment where the provider controls the standards and culture.
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different and in some ways difficult as homes are
designed to suite the taste of the occupants and
not for care. A review of literature on telecare
revealed that there were few articles that specifi-
cally address safety and quality issues in telecare
although there are more articles on these aspects
in telehealth. The technical aspects of safety and
quality can be measured and metrics have been
proposed for this (Brook, McGlynn et al., 2000).
However the social aspects of quality and safety,
which are also related to user experience, have
not been given much consideration. The need to
capture and structure individual social context
led to the framework proposed in this article as a
telecare solution design guideline.

Telecare services monitor individuals in their
homes from a distance by linking emergency
and care professionals directly to a residence
using electronic, computing and communication
technologies that are dispersed in the individual’s
home. Emergency “trigger events” can be de-
tected via electronic devices distributed about the
home (Porteous and Brownsell, 2000). Telecare
operators decide on the appropriate response to
the raised alarm. The range of people who receive
home care is very diverse and the numbers of
users are growing (Sethi, Azzi et al. 2011). This
poses challenges of increased safety and quality
of service to the providers.

The application of technology in home care
will mostly be evaluated from a social perspective
by the users. The social perspective includes eth-
ics, privacy, security and the cultural perspective
(Perry and Beyer, 2010; Sethi, Azzi et al., 2011)
which are linked to user safety and quality of
service. It is therefore important to understand
the social issues that surround implementation
of technology in the home. There is a realisation
that the nature of services to which technologies
are being applied are very personal and present a
range of ethical and social challenges to the service
providers and the users alike. This raises the need
to develop methods of designing and implementing
telecare that respect the choices of the individual,
improve acceptance and minimises unintended
injury. In order to understand the social aspects
of telecare quality and user safety the following
section will give a brief background to telecare.
The background will end with a narrative of the
current telecare approach using a pilot study.
Section 3 looks at the social aspects of quality in
telecare followed by a section on patient safety.
Section 5 discusses a proposed home normative
home telecare framework and section 6 discusses
the validation of the framework before a conclu-
sion is made.

2. TELECARE BACKGROUND

The United Nations predicts that 40% of the world
population will be over 60 years old in 2050 (UN,
2009). The same report shows that between the
years of 2009 to 2050 the ratio of dependent people
will double in Africa, Europe, North America and
Oceania. The ratio will triple in Asia and Latin
America and the Caribbean. Dependent people
are calculated as those people under the age of
15 and over the age of 65 who are expected to
need some sort of support in order to survive.
The significance of this and other reports is that
governments will have a decreasing tax base as
a source of revenue and this will impact on the
social programmes that they provide like the sup-
port for the elderly and vulnerable groups. The
increase in the number of elderly needing care is
partly attributed to improved living conditions.
Another contributing factor to the decrease in the
working population is the decreasing births rate
especially in developed countries. These trends
have led to the search for new ways to provide
care and the use of technology as advocated in
telecare has been identified as one of those with
the biggest potential.