

# A Potential Technology for Social Care Home Solutions in Saudi Arabia



**Majid H Alsulami\***

*College of Community, Shaqra University, Saudi Arabia*

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**\*Corresponding author:** Majid H Alsulami, College of Community, Shaqra University, Saudi Arabia

## Abstract

The social care home in Saudi Arabia is responsible for taking care of elderly people. They provide elderly people with accommodation, food, expenses, medical issues etc, and the number of elderly people who resident in the social care home in 2016 was 668. This small number of residences costs the government an excessive amount of budget finance. The total number of elderly people 1.5 million in 2015, and it is expected to rise to 4.3 million by 2030 in KSA. While the proportion of elderly people is increasing, it is expected that the elderly people resident in social care home will also rise. Therefore, Ambient Assisted Living is advocated to assist the ministry of labor and social Development in overcoming this challenge by providing elderly people with a good and effective quality of life, reduce the cost of staff and assisting in monitoring health and daily activities of elderly. The research involved a Community of Practice (CoP) study as a method of data collection where data collected was presented and discussed in line with the existing literature review findings. The research in KSA proposes that AAL can help in social care homes to monitor the health and activities of elderly people and provide them with the quality of life while they are staying at the social care home or their homes.

**Keywords:** Ambient Assisted Living; Social Care Home; community of practice; KSA

## Introduction

In the Kingdom of Saudi Arabia (KSA), the Ministry of Labour and Social Development is responsible for taking care of elderly people (over 60 years) who are not able to live independently and get support from their family. The Social Care Home is a division of the Ministry of Labour and Social Development. The role of social care home is to create a decent standard of living and a human life with full healthcare for certain categories of males and females who cannot be hosted by their families. Consequently, the elderly who have no breadwinners and who are unable take care of themselves or who are surrounded by economic and social conditions do not that allow them to live with their families. In KSA, the number of social care homes is currently only 12. They are in Riyadh, Makkah, Madinah, Taif, Abha, Damam, Onizah, Jouf and Wadi Al Dawasir (Planning and Development Directorate, 2016) [1].

In KSA, the growth and proportion of elderly people will be a challenge [2,3]. In 2015, it was 5% of the population in KSA, and it is expected to reach 20.9% by 2050. This percentage of elderly people will increase significantly to 33.5% by 2100 [4]. In 1950, the life expectancy was roughly 70 years, but it was reached 74 years in 2010, and It is projected to be 85.3 years by 2100 due to the improvement in the healthcare in KSA [4]. On the other hand, the fertility rate dropped from 5.5 children per woman in 1990 to be projected 1.8 [5].

In this paper, the author conducted a Community of Practice (CoP) to identify the concerns that facing the social care home in KSA. This paper is organised as follows: Section II provides and examines a literature review of elderly people, and Section III describes the Community of Practice (CoP). Section IIII analyses the results conducted through the Community of Practice. The discussion is outlined in in Section V and the proposed technology is presented in Section VI. The conclusion and future work are presented in Section VII.

## Literature Review

### Care of Elderly People in KSA

The care of the elderly through 'shelter care' is one of the first activities that started after the foundation of KSA in 1933. The Director of Public Security in Al-Hijaz Mahdi Baq Saleh established a shelter care for elderly people from pilgrims to prevent them from begging in 1935. King Abdulaziz ordered the construction of a private house for them at his own expense in 1944 and then established another in Madinah. In 1954, the first shelter care was created in Riyadh, the capital of KSA [6,7].

A study conducted by [6] indicated that the number of elderly people in Onizah city was 51 in 2016, and the number of staffs who take care of them was 64. The elderly people are provided with several care services, such as medical, psychological and social

care, as well as the opportunity to practice in different activities for instance sports, culture, etc. These programs and care are managed and supervised by a variety providing different duties such as administrative, medical, nursing and social specialties [6]. One role of social care is to arrange some visits and trips to connect elderly with the outside community and to eliminate their sense of isolation. The social care allows elderly's relatives and friends to visit them and certain healthcare works, which help to contribute and connect the elderly to the environment [8]. The Ministry of Labour and Social Development reported that the total number of elderly people in 2016 was 668, and 60% were male and 40% female [1].

### Issues with Elderly People

Considerable research has indicated that the main issues facing elderly people in the social care home are outlined into the following:

- a) Health issues, which can be a lack of physiological functions such as impaired vision [6,7,8].
- b) Psychological issues that are related to the lack of adaptation to their new life. The elderly people might feel the loneliness, emptiness, fear of the future, loss of love of others and loss of children and families [6,7,8].
- c) Economic issues that are rising from being retired and affect the income of families [6,7,8].
- d) Social issues are considered as a major concern for the elderly people [6,7,8].

### Ambient Assisted Living Technologies

Ambient Assisted Living (AAL) is a 'socio-technical systems that consist of networked artefacts (i.e. sensors & actuators) embedded in an AAL space to provide various types of AAL services for the wellbeing of the assisted persons (e.g. the elderly or disabled)' [9]. It is used to provide elderly people with quality of life [10,11] and can assist in monitoring the health of elderly people [12,13]. Moreover, AAL can help elderly people to overcome the risk of fall and perform some of their daily activities [14]. It can also prevent elderly people from being isolated [11]. According to the Counsel and Care study in UK, elderly people prefer to live in their homes [15]. Consequentially, AAL can provide and support social care home in KSA to help overcome the challenges affecting elderly people.

### Description of the Cop

The Community of Practice (CoP) is a 'group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly' [16]. The aim of conducting the CoP is to identify the main issues that the Ministry of Labour and Social Development is facing regarding social care homes and support for elderly people in KSA. A CoP was conducted in August 2016 with members of Ministry

of Labour and Social Development. The CoP consisted of four employees of Ministry of Labour and Social Development (MLSD). They were Director of Elderly People Care Division, Ministry's Consultant and two Specialists in Elderly People issues. The author explained the purpose of the research, which is about using AAL technologies to provide a proactive monitoring system for elderly people. A workshop was then used to present the proposed potential technology. MLSD's staffs clarified that they are responsible for protecting and caring of the people who live in their social care home and motivating the family who take care of their elderly.

They outlined some of their concerns and conditions, which should be applied to accept an elderly into social care home, which are as follows:

- a) The elderly should be Saudi.
- b) The elderly should be above 60 years and might accept people who are below 60 years if it is proven, they need support.
- c) The elderly person should be in a good health condition, and not having any chronic diseases.
- d) The family is unable to take care of the elderly.
- e) The elderly has no family to take care of them.

According to the regulations of taking care of elderly, the social care home should be responsible for the followings:

- a) Hosting elderly people.
- b) Providing elderly with SR 200 monthly for his/her expenses.
- c) Providing elderly people with food.
- d) Providing elderly people with all their needs such as cloths.
- e) Providing health needs
- f) Creating a social environment.
- g) Providing some social, cultural, religious and entertainment activities
- h) Training their staff on health issues especially heart problems.

MLSD's staffs mentioned some concerns about the elderly issues, which are:

**a) Concern 1:** The lack of data about the total number of elderly people is a major challenge facing the Ministry. In January 2016, the Minister formed a committee to investigate and study the issues related to elderly people.

**b) Concern 2:** Each social care home for example in Riyadh, the total number of elderly males is 73 people, and there

are 288 employees taking care of them. Consequently, the cost per person is exceptionally high, which has cost implication to budget of the Ministry.

**c) Concern 3:** The presence of some elderly people who have some psychological problems in the same social care home can cause tension, anxiety, fear in the other elderly people being accommodating in this facility. In addition, some elderly people in the social care home suffer from social problems since they do not have friends and relatives who can visit them and spend time with them both inside and outside the social care home.

**d) Concern 4:** The social care home has limited technological solutions to monitor elderly people to reduce the cost and improve the efficiency in the social care home. Consequently, the number of clinical staffs such as doctors and nurses and health-care providers are increasing resulting in increasing financial pressure on the Ministry.

### Results of the Cop

The CoP showed that there are four challenges facing the Ministry of Labor and Social Development in the social care home. These challenges are the lack of information of elderly people who need support, the impact of financial cost and staffing resources required to be provided by the Ministry, the impact of elderly with psychological problems on other elderly people, and the lack of provision to support elderly people to live indecently in their home environment in which AAL technology could be used to support and monitor them at home providing a safe and secure environment at substantially lower cost.

### Discussion

The social care homes in KSA are responsible for accommodating, taking care and financing of elderly people. However, the number of elderly people who live in the social care home is relatively small compared to the total number of elderly people in KSA. The study showed that the Ministry of Labour and Social Development currently lack the information on the number of elderly and future prediction, and the financial cost of providing support for elderly people in the social care home. This will result in unsustainable financial and resource implication on the government of the KSA. The literature indicates that the number of staff (64) to support the elderly people (51) in Onizah, which means that there are 13 employees more than the elderly people [6].

One of the significant issues that facing the social care home is the psychological problem that elderly suffer from as mentioned in the meeting of CoP. This may be disproportionately because of the small number of elderly. In fact, the literature indicates this type of issue [6,7,8]. The study indicates that the social needs are one of the most important needs of the elderly, and they are intertwined. The soul of the elderly is improved when it feels that its value is still present by those who surround it, especially their children. This is identified in the literature

review, which is considered as a major concern by the elderly and social care home problem [6-8]. Currently, the low number of elderly people supported by the government in care home is relatively low. However, based on ageing population statistics KSA will have a significant increase to provide care provision in the future and consequently these elderly people could be supported using AAL technology to live independently in their own home, which studies indicated they prefer.

### The Proposed Technology

According to the Planning and Development Directorate (2016) [1], there are twelve social care homes in KSA, and there is a central directorate that is responsible for following and taking care of elderly people in KSA. Therefore, the proactive monitor system (PMS) that was developed by [17] which consists of six layers, can be adopted as a technological solution that can provide elderly people with the quality of life and some needed services and is called Age KSA. First, the directorate should identify the needs of each elderly person in the social care home. Second, each social care home should be provided with the network communication to collect the data from each elderly person via technologies that are identified according to the requirements of each elderly person. Third, each social care home should be connected to the main proactive monitoring system.

The system can provide a variety of actions that can be undertaken when abnormalities occur to provide the quality of life to elderly people who stay at social care homes. The actions that can be provided by the system include one of the followings: calling; texting; alerting and emailing the elderly; contacting families; contacting relatives or carers; visualising daily activities; early reporting to families, relatives, carers etc; dispatching a doctor or a nurse and calling an ambulance and/or police.

The services that can be provided by Age KSA include one of the followings and as illustrated in Figure 1:

- a) Social Interaction: connects elderly people with society and community
- b) Advice: provides elderly people with some advices when needed
- c) Call Centre: 24/7 feedbacks and helps
- d) Technology: provides elderly people with technology that enables PMS
- e) System: installs and connects elderly people with system
- f) Finance: funds elderly people with their needs
- g) Accommodation: accommodates elderly people at the social care homes.

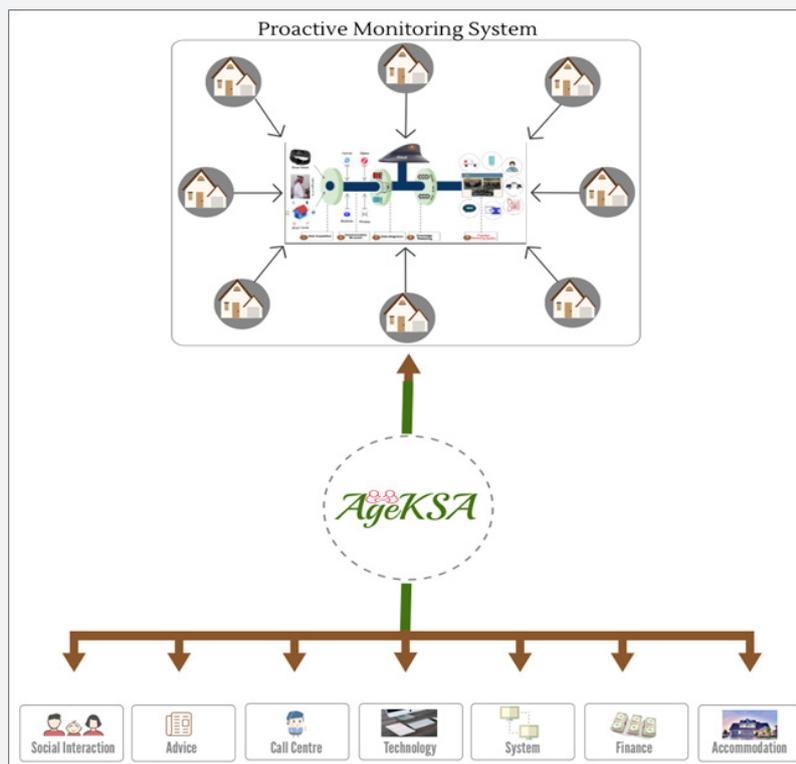


Figure 1: The Proposed System.

### Conclusion and Future Work

The research showed that the proportion of elderly people in KSA is increasing. The number of elderly people who live in the social care home is small compared to overall elderly people in KSA. Even though the number of elderly people who reside in the social care home is small, and the number of staff is high, resulting in significant high financial cost. The main issues facing elderly people are health, psychological, economic and social issues.

The study indicated that the Ministry lacks information on current and predicted number of elderly people in KSA. Further, it is clear that the Ministry is not using any AAL technological solutions to assist them in monitoring the daily activities and health of elderly people. Therefore, they are required to hire doctors and nurses in each social care home. The current research concludes that there is a need for AAL technologies to improve the quality of life of elderly people and reduce the budget of hiring more staff. Hence, this research proposed Age KSA as a potential system that can be used by the Ministry in order to monitor the health and activities of elderly people and provide them with seven services that enable the elderly people to be provided with the quality of life. Consequently, the cost of taking care of elderly people will be decreased. Further research would include a high number of members to draw various insights on the role of social care home, interview some of elderly people who live in the social care home, interview some staff who take care of elderly people.

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