AMERICAN UNIVERSITY OF BEIRUT

A MULTIDISCIPLINARY OUTREACH PROGRAM FOR OLDER ADULTS IN LEBANON: PROPOSAL AND RECOMMENDATIONS

By

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AN ABSTRACT OF THE PROJECT OF

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The rise of the aging population together with the increase of chronic diseases in older adults lead to frequent hospital admissions, poor quality of life, noncompliance with the medical care and dissatisfaction of older adults and their caregivers. The resulting increased health care needs of the aging population leads to increased demand of primary health care services and multidisciplinary outreach programs in the community. The purpose of this project is to review the literature on community programs for older adults and development of an outreach program that fits the context of Lebanon, in order to improve the quality of care of older adults in Lebanon.

The proposed modified Guided Care Model is a nurse-led, multidisciplinary, coordinated model of care that can be initiated with an advanced practice nurse and geriatric physician partnership, and then the team gets expanded to include a dietitian, a physical therapist, and other specialty physicians. Members of the team ought to be certified in gerontology and Guided Care.

This proposed nurse-led multidisciplinary team provides initial assessment of the older adults and their caregivers, frequent home visits, with a prioritized and individualized plan of care, and follow up with proper learning assessment, education, coordination, collaboration and evaluation of care. Initially the program can start in affiliation with one medical center, and with awareness campaigns, referrals from other centers can be made.

This program is hoped to reduce readmission rates and promote the quality of life of older adults in Lebanon. Challenges of implementation and evaluation are addressed.

CONTENTS

CHAPTER I

INTRODUCTION

During the past several decades, there has been a great advancement in medicine, vast decline in fertility rate, and lengthening of life expectancy worldwide (Lesthaeghe, 2000). The projection of U.S. Census Bureau (2012) and the projection of United Nations Population Division of the Department of Economics and Social Affairs(DESA) (2013) state that the advancement of medicine along with decreasing fertility and lengthening life expectancy will attribute to the increase of the population aging worldwide. By 2050, there will be increase from 14 million to 400 million older adults worldwide (UN-World Population Prospects Report, 2010). By 2050, percentage of population aging is expected to be the highest in Europe, where one every six Europeans is projected to be aged 75 years or older (Lesthaeghe, 2000). In Japan, it is estimated that by 2030 nearly 40 percent of older adults will be 80 years and above, projecting an increase from 7 percent to 14 percent within quarter of century (Lesthaeghe, 2000). In Lebanon, it is estimated that by the year 2025 the aging population will constitute 10.2% of the Lebanese population (Sibai, Sen, Baydoun, & Saxena, 2004). In addition the latest statistics done by the Lebanese Ministry of Public Health (2006) show that the average life expectancy in Lebanon is 78 years old and by 2030 the overall aging population considered 60 years and above is projected to be 12% of the total population.

With the advancement of medicine, the major cause of death in humans will be shifted from acute infectious diseases to chronic illnesses, especially in older adults

(Wolff et al., 2002, Gerard et al., 2004; Somnath et al., 2008). In addition, the advancement in medicine resulted in increased life expectancy and average age of mortality reported by UN DESA (2013). Thus, with the introduction of antibiotics, micronutrients, anesthesia, preventive medicine, aseptic handling of surgeries and procedures increased the survival expectation of young adults and attributed to the increase of aging population(WHO, 2012). At the same time, birth rates declined due to family planning, use of contraceptives, increased number of working mothers and financial issues, which also attributed to the increase of aging population by decreasing the number of youth population (WHO, 2009). These factors contributed to the increase in life expectancy and increase of relative and absolute number of older adults in the developed and developing countries (WHO, 2009; UN DESA, 2013).

In the context of this global increase in aging population, with the increasing numbers of older adults at great risk for chronic non-communicable diseases and multiple morbidities, there is a rapidly increasing demand for primary care services worldwide, in both developed and developing countries (WHO Study on Adult AGEing and Adult Health, 2005). This is especially true considering the functional decline that may accompany chronic illness in older adults, thus extending their health care needs beyond the acute care settings. The limited resources of primary care settings cause a vicious cycle of decreased quality of life of older adults (Chemali et al., 2008). Consider the example of a Lebanese nuclear family with working family members being in charge of their older adults, and an older adult with increased multiple morbidities. This older adult might feel the sense of dependence and burden and try to hide his/her complaints, which may attribute to complication of diseases, and other multiple

morbidities and hence decrease the quality of life of the older adult and increase the burden on caregivers (Chemali, Chahine, & Sibai, 2008).

The World Health Organization (2012) attributes the provision of community outreach programs as an integral component of an inclusive primary health care strategy to improve the healthcare and quality of life of older adults worldwide. Hence, with the aging population growing steadily seen as an issue of concern globally, there is increased demand for effective and efficient primary care services worldwide, which includes Lebanon. The primary care services contribute by helping older adults maintain good health, remain as independent as they can and prevent diseases and their complications. Unfortunately, in Lebanon this issue has been underestimated and such services underdeveloped; there are no specific publications addressing the existence of an efficient and effective primary health care services for older adults.

A. Background

The quality of the older adult health care and the importance of the primary health care system are tightly linked. In other developed and developing countries the primary care for older adults is advanced to the point where there is several services for any specific aging population with similar needs. The primary care services worldwide, especially in developed countries, include but are not limited to protective services, respite care, adult day care, nursing home care, home health aide, case management or supportive community programs, homemaker assistants, trained volunteer companions, utility subsidies, home visits and other target specific community outreach programs. There is continuous monitoring of the quality of care provided in the above-mentioned geriatric wards, nursing homes and community outreach programs by the Joint

Commission and policies (David et al., 2013). In addition, there are well trained geriatricians, geriatric nurse practitioners, geriatric clinical nurse specialists, and geriatric specialized community nurses, physical therapists, occupational therapists, nutritionists, volunteers and social workers, who collaborate in taking care of patients in primary care settings/ practices, discuss cases individually and make recommendations to the primary health care team to provide holistic and continuous high quality care to older adults (David et al., 2013).

In Lebanon we lack the well organized, coordinated, patient-centered, and cost effective primary care systems for older adults with chronic diseases. Only seven out of 10,430 physicians are geriatricians (unpublished data from Lebanese Order of Physicians, 2006). There is lack or unpublished data of specialized geriatric care nurses or advanced practice nurses with specified job description practicing in geriatric field (unpublished data from the Order of Nurses in Lebanon, 2012). Moreover, most of the physicians, registered nurses, occupational therapists, social workers, physical therapists, and nutritionists practicing in the nursing homes are not certified, specialized or well trained in geriatric care (Chemali et al., 2008).

In Lebanon, the primary care provided to older adults in the community is mainly through the nursing homes, which are mostly branched out of specific hospitals and serve specific confessional entities in the community (Nasser & Doumit, 2010). For example, currently "there are 46 nursing homes divided as follows: 25 Christians, 13 funded by Christian Philanthropists, seven Muslim and one Druze" that serve their specific congregation or ethnic orientation (Nasser & Doumit, 2010). Moreover, these nursing homes are affiliated with specific hospitals or universities to educate nurses, nursing students and medical team. For example, Balamand University is affiliated with

St. George Hospital and serves specific geriatric population going to the hospital (Abyad, 2001). However, as perceived by the Lebanese community, the nursing home profile in Lebanon is different than the Western countries, in that admission to nursing homes in Lebanon is considered as the "last resort" to older adults or for the purpose of providing basic end of life care (Chemali et al., 2008). There are no published studies addressing the respite care in Lebanon. Health care services are considered as respite care when caregivers are relieved from their care duties to their older adult family member by having someone take over the care for some time in their own home so the caregivers can take break or be able to go to work during the day. However, there are several private institutions, such as Atcom, Home Care Lebanon, Home Health Care, Nurses and Services Network and others that provide specific and basic care needs for older adults in Lebanon.

Although there are private or affiliated centers in Lebanon, there is lack of holistic, individualized and advanced care of older adults, shortage of professional staff, shortage of specialized and certified staff, lack of continuity of care of older adults following discharge from acute care settings, lack of government policies, lack of laws that govern the provision of health care provided for older adults, lack of social and economic protection for older adults, lack of nursing home licensing system, lack of quality of care monitoring in primary care services, lack of control and monitoring of the quality of care provided in nursing homes, lack of comprehensive scientific studies on long term care facilities, lack of a model of care to be followed and lack of standardized guidelines (Nasser & Doumit, 2010; Naja, 2012).

The primary care services needed for older adults in the community should be multidisciplinary, comprehensive and evidenced-based practice to improve the chronic

care of older adults (WHO, 2012). There are several older adults primary care systems that follow specialized models of care used worldwide, which are Guided Care, a nurse-physician partnership outreach for older adults with chronic diseases (Boult et al., 2008; Boyd et al., 2008; Boult, Giddens, Frey, Reider, & Novak, 2009); Care Management Plus for management of care of older adults in the community (Dorr, Wilcox, Brunker, Burden, & Donelly, 2008); Community Geriatrics Services Model of Care, a multidisciplinary outreach program for older adults(Bernabei et al., 1998; Beswick, Rees, Dieppe, Ayis, Gooberman-Hill, Horwood, & Ebrahim, 2008);Geriatric Resources and Care for the Elderly (GRACE), a resource outreach program for older adults (Counsell, Callahan, Clark, Tu, Buttar, Stump, & Rickettss, 2007); Improving Mood: Promoting Access to Collaborative Treatment (IMPACT) for older adults with depression (Unutzer et al., 2002); Chronic Care Model , targeting older adults with chronic diseases (Cramm &Nieboer, 2013); and Multidisciplinary Team Based Care for older adults with dementia (Callahan et al., 2006). Each of these listed primary healthcare systems are mostly multidisciplinary and follow specialized models of care that can improve quality of care of older adults in the community. In Lebanon, there are no published articles addressing specific model of care for older adults in the community. To choose the best model to follow, a thorough literature review of the models used worldwide in geriatrics that showed improvement of quality of life and healthcare of older adults in the community will be presented in the literature review section. The limits of the available data in Lebanon indicate a knowledge gap of the healthcare professionals of what are the challenges faced by the aging population in the community and how well the older adults' needs are being met.

B. Significance and Purpose

The purpose of this project is to provide proposal, guidelines and recommendations for establishing a multidisciplinary outreach program for older adults in Lebanon. This project is about transformation of older adult care in Lebanon into holistic, individualized, coordinated, and advanced care by establishing an effective and efficient primary healthcare system for older adults. Furthermore, construct multidisciplinary teams that transform the management of the care of older adults with several chronic diseases, long list of medications and several multi-morbidities from the fragmented, depersonalized, inefficient, chronic care provided today to a new model of care called Guided Care. The Guided Care is defined as the community outreach multidisciplinary, and nurse-physician partnership model of care for older adults with chronic diseases, which is patient-centered and cost effective (Boult et al., 2008c; Boyd et al., 2007).

In an attempt to propose and establish the best multidisciplinary community outreach program for older adults in Lebanon, this project encompasses literature review and history of all the models of geriatric primary care developed and used worldwide; a critical analysis of the situation in Lebanon; and guidelines for the establishment of the best approach of multidisciplinary community outreach program for older adults, with recommendations for successful delivery of primary care services and its evaluation.

In addition, this proposed project will suggest optimal primary care services to older adults, with optimal follow up of individualized cases, and proper education for older adult patients and their caregivers. The desired outcomes of implementation of

this project will be increased preventive health care, decreased hospital readmissions, decreased emergency department visits, decreased adverse drug reactions, increased in medication and treatment compliance, decreased total cost of hospitalization, increased satisfaction of the caregivers, better quality of care, better continuity of care, increased independence of older adults, increased functional capacity, decreased co-morbidity factors and hence improved overall healthcare and quality of life of older adults in Lebanon. This investment in health care system will decrease the burden on the aging population with chronic diseases, which will contribute to the independence and productivity of older adults that will in its turn contribute to increased benefits to the overall health of society.

CHAPTER II

LITERATURE REVIEW

There are several models to integrate community outreach programs, but there is "no simple magic bullet solution" to the challenges of population aging worldwide (WHO, 2012); the choice of the model of care depends on the target community and the setting. All models of care described in the literature were found to promote good health and healthy behaviors of older adults, prevent chronic diseases or the delay in their care, promote early detection of diseases, minimize consequences of chronic illness, enhance quality of life and healthcare of older adults, create safe and old-age-friendly environment for older adults, encourage participation of older adults in the care provided and decision making process, promote multidisciplinary approach to care, and improve the quality of life of older adults in the community (Boult et al., 2008a; Boyd et al., 2007; Callahan et al., 2006; Dorr et al., 2008; Boult et al., 2009; WHO, 2012) .

There are three main multidisciplinary models of care that target the care and challenges of the aging population in the community worldwide and they are classified as follows: Chronic Care Model, Community Geriatric Services Model of Care and Guided Care (Bodenheimer, Wagner & Grumbach, 2002a; Barr, 2003; Boult et al., 2008a; Boyd et al., 2008;Boult et al., 2009;Cramm & Nieboer, 2013; Government of South Australia Health, 2013).

A. Chronic Care Model

There is a rise of the chronic illnesses and their consequences worldwide with the rise of the aging population that led to a well developed search for strategies to improve healthcare system by detecting illnesses early, preventing consequences and managing chronic diseases as effectively as possible (Barr, 2003). The Chronic Care Model (CCM) is a widely adopted model of care used in ambulatory settings and in community outreach programs worldwide (Cramm & Nieboer, 2013). The CCM was developed by Edward Wagner and colleagues and is widely used in the United States and worldwide to improve the healthcare systems targeting the populations with chronic illnesses, including older adults (Coleman, Austin, Brach, and Wagner, 2009). The CCM showed improvement in the functional and clinical outcomes of chronic disease management of populations with chronic diseases, which "are the result of productive interactions between informed, active patients and prepared productive practice team of clinicians and healthcare professionals"(Glasgow et al., 2001; Wagner, Davis, Schaefer, VonKorff, & Austin, 2002).

Cramm & Nieboer (2013) investigated the effect of using the CCM on the quality of chronic illness care and the experience of patients with the new care delivery system. They used two questionnaires, the Patient Assessment of Chronic Illness Care (PACIC) and Professional's Assessment of Chronic Illness Care (ACIC), at two time intervals between T1:2010 and T2:2011. PACIC's mean scores improved significantly from 2010 till 2011 after using CCM (from T1: 2.89 to T2: 2.96, $P<0.001$) and ACIC's mean scores improved as well significantly during the same time interval (from T1: 6.83 to T2: 7.18, $P<0.001$) (Cramm & Neiboer, 2013).

The Chronic Care model includes a population identification process, evidence-based practice guidelines, a collaborative practice model, patient self-management education, process and outcomes measurement, as well as routine reporting and feedback from patients (Disease Management Association of America, 2013). The CCM provides opportunity to the healthcare system to build public health policies, create supportive and resourceful environment for populations with chronic diseases, and strengthen the community outreach (Glasgow et al., 2001). The CCM has six key components:1) health system-organization of healthcare; 2) self- management support; 3) decision support; 4) delivery system design; 5) clinical information systems; and 6) community resources and policies (Glasgow et al., 2001; Bodenheimer, Wagner, & Grumbach, 2002a; Bodenheimer, Lorig, Holman, & Grumbach, 2002b). These six components interact with each other and influence the systemic change of the chronic disease management approach in the community (Barr, 2003).

Coleman, Austin, Brach, and Wagner (2009) reviewed 82 articles published from 2000 till 2009 examining the evidence of CCM effectiveness by measuring the quality of care of the chronically ill patients using patient outcomes in primary care settings. For example in one of the studies reviewed the authors studied the levels of HbA1C after implementing the CCM and integrating all the six key elements (Parchman, Zeber, Romero, & Pugh, 2007). Other outcomes that were examined included readmission rates and length of stay of patients with heart failure, LDL cholesterol levels and blood pressure. The authors found a common gap between what the professionals know about CCM and what they actually do in their practice and the impact of their practice on the population with chronic diseases (Coleman et al., 2009). In addition, more studies cited addressed the disadvantages of the CCM, which include

the following: lack of electronic data system, lack of coordination of care with the acute care settings, lack of fully prepared and trained practitioners, high cost, small efficacy, investment of unnecessary and substantial resources on the care management, failure to target the aging population, lack of continuity of care, lack of tracking of progress of the care and failure of the patients to comply with the program (Barr, 2003; Coleman et al., 2009; Nunez, Keller, & Ananian, 2009). It is worth noting that the studies reviewed were of various designs, from quality improvement projects to observational studies with few randomized controlled trials, and targeting a variety of patient populations. Moreover, not all six elements of the CCM were included in all the studies reviewed, which limit the conclusions that can be drawn.

Even though the CCM has the potential to improve the care of populations with chronic diseases and reduce the healthcare costs in the community worldwide, several obstacles preclude its implementation in the aging population: 1) lack of availability of well organized multidisciplinary approach; 2) lack of proper knowledge related to CCM; 3) inadequate integration of the six key elements; 4) the complexity of the model; and 5) the limited data related to cost effectiveness (Bodenheimer et al., 2002; Coleman et al., 2009). Moreover, there were suggestions to include stronger multidisciplinary collaborative and continuous care approach, clinical prevention practice model and to utilize resources in the community more effectively to improve compliance of the older adults with the instructions, medication list, treatment modalities provided by health care professionals and hence better health outcomes in the community (Barr, 2003, 2009; Nunez et al., 2009; Coleman et al., 2009).

B. Community Geriatric Services Model of Care

The Community Geriatric Services model of care presents the subspecialty of geriatric services provided worldwide, especially in South Australia that is applicable exclusively in the community. This model of Geriatric care is consistent with the Australian Government's Living Longer Living Better Policy and " Australian Ageing's Health Service Framework for older People 2009-2016" (Australian Government Health, 2013). All primary healthcare systems and community outreach programs that use the Community Geriatric Service Model of Care aim to target the aging population, tailor care to the individual needs, provide an effective and multidisciplinary care approach on consultant basis, ensure the collaborative focus, provide treatment to diseases and their consequences, provide restorative care, support the living independently and with dignity concept, improve physical function, reduce the decline of cognitive function, ensure that the older person is safe, comfortable and with no distress in his/her own environment and living setting, provide time limited service in his/her own home setting, and warrant that end of life care is provided according to the older adult's own wishes (Junaid & Bruce, 2004; Van Citters & Bartels, 2004; Bernabei et al., 1998; Beswick et al., 2008).

The Statewide Older People Clinical Network of the Australian Government Health (2013) presented the details of the Community Geriatric Services Model of Care, and the roles of each professional division of medical and paramedical services. This model of care is based on consultation basis of the medical and paramedical services, and the geriatrician provides the screening and initial assessment process of the older adult in the clinic. The follow up assessment/evaluation process is divided between the geriatrician, specialized physician assistant, nurse practitioner and other health care

providers (Australian Government Health, 2013). For example, if the older adult had issues related to the activities of daily living, an occupational therapist would be consulted to support assessment and management of this older adult in the community. In this model of care the primary physician, public advertisement and family members refer the older adults to the geriatrician (Australian Government Health, 2013).

A randomized trial in North Italy with one-year follow up was done by Bernabei et al., (1998) to test the Community Geriatric Services Model components. Results have shown decreased admission to the hospitals, financial savings in the community healthcare system over one year with around $1800, improved physical function of older adults with improvement of activities of daily living of 5.1% in the intervention group versus loss of activities of daily living by 13.0% in the control group older adults($P<0.001$) and enhanced cognitive function by 3.8% versus decline of cognitive function by 9.4% in the control group ($P<0.05$). On the other hand, a systematic review done by Van Citters & Bartels (2004) evaluated the effectiveness of the Community Geriatric Service Model of Care used in mental health care provided for older adults in the community. In this review and another systematic review and meta-analysis (Beswick et al., 2008), there was evidence of the efficacy of this model, and limited data supporting its effectiveness. The results showed reduction in the risk of not living at home (RR= 0.95), reduced nursing home admissions (RR= 0.95), risk of hospital admission (RR= 0.94), risk of fall (RR= 0.0), and physical function (standardized mean difference -0.08)when the Community Geriatric Services Model was used (Van Citters & Bartels, 2004; Beswick et al., 2008).

Even though geriatricians use the Geriatric Community Service Model of Care worldwide, more efforts are needed to improve the outcomes, effectiveness and

efficiency of the model (Besweick et al., 2008; Day & Rasmussen, 2004). In order to practice effectively and efficiently using the Community Geriatric Service Model, the multidisciplinary team members should be well trained in the geriatric field, tailor their practice to the individual needs of older adults, demonstrate higher degree of collaboration and multidisciplinary approach, have specialists in all the disciplines involved, acquire government funding and policies to support operations, more comprehensive patient management information system, and more prevention and screening tools (Day & Rasmussen , 2004).

C. Guided Care Model

The Guided Care Model was created at Johns Hopkins University in Baltimore through a series of meetings from 2002 till 2005, which were conducted by multidisciplinary team members that included physicians, registered nurses, public health professionals, consumers, educators, behaviorists, policy experts, insurance executives, government officials, and consultants in business and communication (Boyd et al., 2007). The Guided Care Model integrates the most recent evidence-based practice in geriatric care, guidelines in chronic care, most effective principles in case-management and the multidisciplinary approach, disease management, self-management, transitional care, most recent and tested geriatric assessment and evaluation tools, and caregiver support models into the primary health care system by initiating the community outreach program (Aliotta et al., 2008; Boult et al., 2008; Boyd et al., 2008).

The Guided Care model provides an advanced model of case management by well trained and certified registered nurses and advanced practice nurses (Aliota et al., 2008). The Guided Care nurse performs the initial assessment and creates the evidence-

based plan of care in partnership with the primary physician, caregiver and patient in the home setting (Aliota et al., 2008). Then the Guided Care nurse follows up her assigned 50 to 60 older adult patients at home providing education to the caregivers, monitoring, coaching, assessing and continuously evaluating the older adult's health care with chronic diseases and multiple morbidities. In addition, the guided care nurse communicates the findings, assessment and evaluation results with the primary physician to take care of the older adult in a collaborative and partnership manner (Aliota et al., 2008; Wolff et al., 2009).

The Guided Care Model is composed of eight essential services provided by the geriatric advanced practice nurse: "1) assessing the patient at home; 2) creating evidence-based care guide; 3) monitoring the patient in the community proactively; 4) empowering the patient by ongoing assessment, education and encouraging self-management; 5) coordinating the providers of care; 6) smoothening the patient transition into and out of the hospital or other facility; 7) educating and supporting the caregivers; and 8) accessing and effectively utilizing the community resources" (Boult et al., 2008c; Boyd et al., 2007; Sylvia, Grisworld, Dunbar, Boyd, Park, & Boult, 2008; Wolff et al., 2009; Boult et al., 2009, p.6). The primary physician, the community nurse and nurse practitioner refer older adult patients to this community outreach program (Boult et al., 2009). In addition, the primary health care settings that want to apply Guided Care program send letters to eligible patients and their caregivers informing, describing and explaining about Guided Care and put posters in the primary physicians office advertising about Guided Care (Boult et al., 2008b; Boult et al., 2009).

A cluster- randomized controlled trial done by Boult et al. (2011) and another pilot study done previously by Boyd et al. (2007) showed the effectiveness of the

Guided Care approach in primary care settings for older adults with chronic diseases and multiple morbidities. The one year pilot test done by Boyd et al. (2007) in the community health care primary services included older adults more than 65 years of age, have a mean of three chronic diseases per person, have functional disability "36% of the participants had difficulty performing activities of daily living and 58% had difficulty performing instrumental activities of daily living", and overall had high insurance expenditures (Mean= $122,800 per person per year).The informal debriefing at the end of this pilot study suggested the feasibility of the Guided Care approach and acceptability by the physicians, nurses, patients and caregivers of this approach. For example it was stated "the physicians and Guided Care nurses were highly enthusiastic and supportive of this new model since there was more collaboration, less time wasted and more coordination of care". Moreover results showed the positive effect of this care on the quality of life of the older adults and their caregivers, which was reported by the older adult patients and their caregivers (Boyd et al., 2007).

In the cluster-randomized controlled trial, 850 older adults with chronic diseases, multiple morbidities and high risk of using healthcare settings were followed up for six months (Boult et al., 2011). The outcomes measured were the frequency of emergency department visits, hospital admissions and length of stay, need for primary physician services and the need for other specialty physician services (Boult et al., 2011). The results showed overall reduction in the use of emergency department and health services(odds ratio [OR] 0.70; Confidence interval [CI] 95%, 0.53-0.93), overall reduction in the skilled nursing facility admissions (OR 0.53; CI 95%, 0.31-0.89) but little effect was shown on the use of private health services and primary physician services(OR 1.34; CI 95%, 1.06-1.70) (Boult et al., 2011).

Another cluster randomized trial done by Wolff et al. (2009) used as outcomes the caregivers' mean Center for Epidemiological Depression (CESD) and Caregiver Strain Index (CSI) scores to compare the intervention and control groups in a sample of 308 caregivers at six months follow up after the baseline interview. In this study the authors showed that "the CESD and CSI scores of the intervention group were respectively 0.97 points (p= 1.4) and 1.14 points (p= 0.06) lower than those of the control group (Wolff et al., 2009). In addition, the authors studied specifically the caregivers who provided 14 hours of weekly assistance to their older adults and compared them to the control group. The results showed that the intervention group CESD and CSI scores were respectively 1.23 points (p= 0.20) and 1.83 points (p=0.04) lower than those of the control group (Wolff et al., 2009). The authors concluded that the Guided Care may improve outcomes of the older adults' health care and also benefit the family caregivers of the older adults with chronic diseases, but more studies and follow up after 18 months were suggested (Wolff et al., 2009).

A six months quasi-experimental study was done to compare the Guided Care cost and utilization with the usual care of older adults with chronic diseases (Sylvia et al., 2008). This study identified the chronically ill older adults as high risk for using health care settings by using the Adjusted Clinical Groups Predictive Model (ACG-PM). During the following six months, the 75 eligible older adults in the Guided Care had statistically significant lower unadjusted mean insurance expenses (P< 0.0001), and lower hospital and emergency department admission costs (P>0.05) and overall less insurance expenditures among the high risk older adults (mean difference $4340) compared to the control group (Sylvia et al., 2008). These results show cost effectiveness of the Guided Care approach for older adults with chronic diseases, but

more randomized control studies needed to validate the efficiency of the Guided Care approach for the ageing population (Sylvia et al., 2008).

Comparing the Guided Care Model with the other models described in the literature, one finds that the Guided Care Model was derived from several previously tested models of care of aging population with chronic diseases in the community like the Chronic Care Model and Community Geriatric Services Model of Care. The common aspects of care in this model include well organized multidisciplinary approach, case management, self-management, geriatric assessment, monitoring, evaluation, case specific management, collaboration and coordination of care (Boult et al., 2008b; Boult et al., 2009; Boult et al., 2011; Boyd et al., 2008; and Wolff et al., 2009). Even though the Guided Care Model shares features from the other models of care especially the Chronic Care Model and Community Geriatric Service Model of Care, it has a broader comprehensive scope of practice for certified and specialized registered nurses and is a nurse-led multidisciplinary approach of care (Boult et al., 2009). The differences that one can find in addition to the comprehensive scope of practice is the specialized and well trained nursing based multifaceted approach to assessment, treatment, and management across the continuum of care, focus on well trained knowledgeable health professionals in geriatric care, and its tailored, flexible, culturally appropriate approach and responsiveness to geriatric health care needs in the community (Boult et al., 2008c; Boyd et al., 2008;Boult et al., 2009;Counsell et al., 2007; Dorr et al., 2008; and Sylvia et al., 2008).

According to the world health organization (WHO,2012), there is a need to promote good health and prevent illnesses and hence the need for community outreach programs worldwide. Lebanon, where the healthcare system is mainly focused on

caring for acute illness, is unprepared for the challenges of rapidly rising aging population, and the need for primary healthcare system for older adults. The primary healthcare system needed in Lebanon should include well-organized, adequate, continuous, holistic, coordinated and standardized community outreach program for older adults in the community, which are the main features of the Guided Care Model. So far in Lebanon, the hospitals, nursing homes, outpatient clinics and homecare agencies work in silos with no standardized model of care, or are affiliated with one hospital in a closed community and provide fragmented chronic care, which is of a high cost (Chemali et al., 2008). Hence, there is a need to adapt a multidisciplinary holistic coordinated model of care, like the Guided Care, to provide comprehensive, multidisciplinary, nurse-led, efficient and effective chronic care for older adults in Lebanon.

CHAPTER III

IMPLEMENTATION OF THE PROPOSED COMMUNITY OUTREACH PROGRAM

Community outreach programs for older adults are revolving worldwide, and it is difficult to choose one specific model of care to adopt. During my residency in geriatric care I was introduced to the Guided Care model and had hands on experience assessing older adults in the clinic, communicating and collaborating with the primary care physician regarding the cases, visiting the patients at home, assessing patients at home, evaluating the plan of care, updating the plan of care, discussing the advanced directives of the patient and observing an admission to emergency room done by the certified masters degree geriatric registered nurse. An adaptation of the Guided Care Model is proposed since it is amenable to the Lebanese context and was found to be associated with positive patients' outcomes.

In this chapter the implementation process of the Guided Care program in Lebanon will be discussed as follows: A) Multidisciplinary team management, where a geriatrician will be invited to partner with a geriatric care/ guided care certified master's degree registered nurse. Furthermore, a multidisciplinary team will be developed and roles will be divided to provide comprehensive management of chronic illnesses of the aging population in Lebanon; B) establishment of the patient care structure and process, where the eligibility, recruitment, admission and discharge process will be discussed; C) Standards of establishment, where the nurse-patient partnership program following the

eight essential key elements of the Guided Care will be discussed; and D) physical set up/ equipment/ human resources and staffing ratio will be discussed at the end.

A. Multidisciplinary Team Management

In the proposed community outreach program, i.e. the Guided Care, the core component of care provided has a multidisciplinary approach for the reasons and benefits presented in the literature review. Moreover, a randomized trial of 282 older adults with congestive heart failure patients showed that the nurse-led interventions done by the multidisciplinary team in the community were associated with reduced admissions to the hospital (P= 0.004), improved quality of life during the 90 days follow up provided during the study (P= 0.001) and decreased overall medical costs due to lower readmission rate of $460 less per older adult patient with congestive heart failure (Rich, Beckham, Wittenberg, Leven, Freedland, & Carney, 1995). The interventions done by the nurse-directed multidisciplinary team in this study include: 1) comprehensive education of the patient/caregiver about health status, medication list, and diet; 2) social service consultation in the community; 3) comprehensive review and education of the medication list upon discharge of the older adult; and 4) intensive follow up of 90 days following first discharge from the hospital (Rich et al., 1995). The Guided Care multidisciplinary team members provide other interventions in addition to the above listed ones that support the eight essential services of Guided Care mentioned previously, namely: 1) coordination of the interventions between the multidisciplinary members; 2) phone call follow ups; 3) home visits by several of the multidisciplinary members, for example Guided Care nurse, occupational therapist and nutritionists; 4) caregiver supports through support groups, phone calls and face-to-face support and

education whenever needed; 5) facilitation of the transfer, admission, discharge, readmission, appointments and emergency department visits; 6) updating the health care information in the computerized electronic healthcare system; and 7) providing consultation resources not only to social workers but to other healthcare needs, for example specialty physicians, transport team, safety officers, older adult day care centers and older adult support groups (Boult et al., 2009).

The multidisciplinary approach care in Lebanon shall start gradually by first forming a guided care certified advanced practice nurse (APN) and geriatric physician partnership and then other multidisciplinary team members will be invited to join the team. The Guided Care certified advanced practice nurse is also called Guided Care nurse, who is certified and specialized in taking care of aging population with chronic diseases. The multidisciplinary team includes the advance practice nurse (APN)/ Guided Care nurse, geriatric physician, specialty physicians, specialized social worker, physical/occupational therapist, and nutritionist. Each health care provider in the team has specific roles and responsibilities to follow, which would be coordinated and collaborated by the APN-geriatric physician partnership process.

The Guided Care nurse in partnership with the geriatric physician initially assesses the patients at the geriatric physician's clinic and initiates the guided care community outreach program. The initial implementation process of the guided care program will be a small-scale pilot study recruiting geriatric physician's patients in the clinic. We propose to initiate the Guided care under the auspices of AUBMC, considering the available resources that are needed to sustain this program. As initial assessment for the need of the multidisciplinary outreach program, the APN and the Geriatric physician will identify high-risk patients. Readmission rates of older adults

over the past three years will be collected along with their admission diagnoses and co-morbidities. The high-risk patients are those who have three or more chronic diseases and high readmission rates. The primary small-scale pilot test will be on the high-risk patients. After evaluation of the implementation process, the community outreach program will expand gradually forming broader multidisciplinary team and recruiting more older adult patients with chronic diseases. The Guided Care nurse hence coordinates and refers the care to specialized members in the team to follow up with the patient and report back to him/her their consultations results. The Guided Care nurse then collects the reports of each multidisciplinary team member and updates the plan of care of the older adult patient accordingly. On monthly basis, the multidisciplinary team meets and discusses the cases, updating information about the progress of the patients and evidence based recommendations for the updated plan of care of the older adults.

The Guided Care nurse develops multidisciplinary outreach and disease specific clinical pathways and guidelines to ease the process of the collaboration and coordination, and enhance the overall performance of the team.

1. Role of the advanced practice nurse:

The Guided Care Community Outreach Program is " a new nurse-physician partnership model in chronic care", and the advanced practice nurse with Guided Care certification plays an important role in the effectiveness and efficiency of the care provided (Boult et al., 2009; & Boult et al., 2011). The Guided Care nurse is a Masters prepared clinical nurse specialist with specialty in geriatric nursing who manages holistically the care of 50 to 60 Guide Care older adults in the community by following

the eight essential activities of the Guided Care nurse (Boult et al., 2009) (Appendix A: Job Description of Guided Care Nurse).

Thus the advanced practice nurse (APN)/ guided care nurse:

a) Assesses the older adult patient using the comprehensive geriatric assessment tool.
b) Optimizes the quality of life by providing evidence-based high quality care for the patients and creating the evidence-based "Care Guide".
c) Collaborates with the multidisciplinary team members and coordinates the care to provide high quality, comprehensive and timely manner plan of care.
d) Monitors the care provided and the progress of the care by continuously assessing the older adult patient.
e) Involves the older adult patients and their caregivers while planning the care of the patient, empowering them to become independent and develop problem-solving skills.
f) Is flexible and tailors the care of the patient based on the older adult patient's needs and preferences.
g) Supports older adult patients by coordinating their transfers in and out of hospital, by being a patient advocate and providing health information to other healthcare practitioners.
h) Educates older adult patients and their caregivers, teaching them self-management and problem-solving skills.

2. Role of other team members

The Guided Care community Outreach Program is a multidisciplinary team approach and every single healthcare provider has his/her specific job description to support and complement each other's job and provide high quality, patient centered and comprehensive care for Guided Care older adults in the community (Boult et al., 2009). The Guided Care multidisciplinary team in addition to the advanced practice nurse, geriatric physician includes a social worker, physical therapist, occupational therapist, and dietitian.

The physician collaborates with the advance practice nurse during assessment phase, plan of care and continuous monitoring. The nurse-physician partnership highly supports the positive outcomes of the Guided Care older adults with chronic diseases (Boult et al., 2011).

The social worker is responsible to communicate with patients regarding financial issues and tries to smoothen the process of admission to and discharge from the hospital. The social worker also collaborates with the multidisciplinary team members and informs them regarding any issue that needs to be addressed like financial issues, abuse or neglect.

The physical/occupational therapist is responsible to assess the environment in the home regarding safety issues, provide active and passive range of motion activities to the older adult. In addition, the physical/occupational therapist encourages the older adult to learn exercises that strengthens the body mechanism and decreases the risk of fall. All information is reported to the multidisciplinary team and special issues are addressed if any procedure or medical tests are needed.

The dietitian is responsible to assess the older adult patient's diet and daily lifestyle and tries to modify changes to enhance the diet and daily lifestyle.

Initially those team members may be hired on a consultation basis from AUBMC then can be given part time appointment as permanent members of the Guided Care team once the program is launched and the staffing needs better estimated, granted they get certified in Guided Care.

B. Patient Care Structure, Process, and Clinical Management Guidelines

Once the Guided Care team has taken off and developed a client pool through AUBMC, expanding the service to areas outside Beirut would be the next step. The Guided Care team would first conduct an informational campaign in Lebanon informing accurately and clearly healthcare providers, patients, and caregivers about the program and the newly adopted model of care (Boult et al., 2009). This can be done through a press release or using social media to raise awareness about this service. In addition, Guide Care team would post informational posters in the clinics and waiting areas of the hospitals in the region as part of the information campaign. The primary physicians' support is needed in Lebanon during this campaign to inform the older adults and caregivers in the community about the newly adopted Guided Care community outreach program and its benefits to the older adults and their caregivers. Moreover, in Lebanon media campaign using television and Internet access will be used.

The older adults and caregivers of the geriatric physician who show interest in Guided Care would then undergo an eligibility screening process. In the United States the eligibility criteria are set by the insurers, hence in Lebanon before initiating the information campaign the Guided Care team would meet with insurance companies and

representatives from the National Social Security Fund (NSSF) to have a clear understanding, agreements and contract with them regarding the eligibility criteria process. The insurance companies and NSSF would receive the full package of the information and literature review regarding the benefits on cost effectiveness of the Guided Care provided to the older adults with chronic diseases in the community. When the older adult, who is referred by the geriatric physician, meets the eligibility criteria, the Guided Care nurse would send a personalized letter to the patient and the caregiver informing them about the eligibility and describing the process and full package of care provided in the Guided Care community outreach program (Boult et al., 2009). In addition to the insurer's eligibility criteria the Guided Care community outreach program in Lebanon would add specific additional eligibility criteria to be able to provide best quality of care and be accessible to the older adults in the region. The eligibility criteria of the Guided Care Community Outreach program in Lebanon would include 1) 65 years old and more older adults; 2) have three or more chronic diseases; 3) Lebanese; 4) is considered as high-risk patient with high readmission rate based on the medical records review study mentioned above; and 5) lives in Lebanon and within community outreach area of the primary healthcare setting where Guided Care is provided.

After meeting the eligibility criteria the older adult with chronic diseases undergoes a primary comprehensive assessment as initial health history using the Guided Care health history form (Appendix B: health history form) (Boult et al., 2009). The Guided Care nurse assesses 1) general medical and surgical history of the older adult; 2) chronic medication; 3) home assessment during a home visit and assessing the environment for safety issues; 4) insurance information; 5) health problems of greatest

importance to the older adult patient; 6) information about the caregivers at home and support system of the older adult; 7) tobacco and alcohol use; 8) daily life and diet; 9) activities of daily living; 10) disabilities; 11) use of devices and equipment at home; 12) nutrition; 13) Mini Mental Status Exam (MMSE); 14) short version of Geriatric Depression Scale; 15) alcohol consumption assessment by using CAGE tool; 16) hearing loss screening; 17) get up and go test; 18) referrals recommended; and 19) finalize the initial assessment by the Guided Care nurse's recommendations. After the initial comprehensive assessment done by the Guided Care nurse in the clinic with partnership of the geriatric physician, the older adult signs a patient consent and authorization for the release of medical information (Appendix C: patient consent/ authorization form sample) (Boult et al., 2009).

After older adult assessment and securing a consent form, the Guided Care nurse sends an invitation letter to the caregiver and assesses him/her as well (Appendix D: caregiver assessment form) (Boult et al., 2009). The older adult in the Guided Care Community Outreach Program receives a Guided Care card. The Guided Care card identifies the older adult as Guided Care patient and documents the contact information of the Guided Care nurse to secure continuity of care, transition of accurate information upon admission, transfers or primary care need in healthcare settings in the community (Boult et al., 2009).

Follow up process of the Guided Care older adult patient is done via phone calls and monthly home visits. The follow up assessments of the older adults are case specific, condition specific and individualized assessment using the directed geriatric assessment tools (Appendix E: condition specific assessment tools) (Boult et al., 2009). The Guided Care older adult patient is not discharged from the care, but followed up

with home visits less frequently. The caregivers continue taking care of the older adults and he/she can independently take care of themselves in the community, but always keep in touch with the Guided Care nurse. The Guided Care nurse follows up continuously with 50 to 60 Guided Care older adults and their caregivers as a resource person via phone calls and monthly assessments, monthly home visits and coordinates the care when needed.

C. Standards of Establishment

To establish a standardized care by implementing and adopting the proposed multidisciplinary outreach program "Guided Care" the multidisciplinary team should follow the eight essential services of Guided Care described in the "Guided Care: A New Nurse- Physician Partnership in chronic Care" book (Boult et al., 2009). In United States the adopters of Guided Care are: 1) Harvard Vanguard Medical Associates; 2) Johns Hopkins Healthcare; 3) Kaiser Foundation Health Plan of Mid-Atlantic States; 4) Mid-Michigan Home Care; 5) Piedmont Community Health Plan; 6) Chautauqua Integrated Delivery System; and 7) Coastal Carolina Quality Care. As discussed in the Guided Care book, the practice that wants to adopt the Guided Care should have at least 50-60 older adults aged 65 years old and above with three or more chronic conditions, a well organized health information technology system, a multidisciplinary team whose members are certified in the Guided Care program or/and have geriatric specialty, in addition to a small office space for the advanced practice nurse (Boult et al., 2009). In the following section the eight essential services will be discussed.

1. Assessing the patient at home

The Guided Care advanced practice nurse with partnership of the geriatric physician does the initial assessment in the clinic of the geriatric physician and then follows up with continuous comprehensive or directed assessments at home settings based on older adult's needs. The Guided Care nurse uses the standardized questionnaire that is 20 to 30 minutes long to assess the older adult's needs and health status during his/her clinic assessment and home visits to the older adult's home. The needs addressed in the standardized questionnaire are "medical, functional, cognitive, affective, psychological, nutritional and environmental status" of the older adult (Boult et al., 2009).In addition, the Guided Care nurse can use additional information needed about the older adult patient from the medical records, established healthcare technology system and the primary physician/ geriatric physician office. The standardized questionnaire used in Guided Care would be adapted after testing its applicability, validity and efficiency in Lebanon.

2. Creating an Evidence-based "Care Guide"

The Guided Care nurse should use the health information technology system and merge the patient's information to come up with the best practice, evidence-based "Preliminary Care Guide" (Boult et al., 2009). This Preliminary Care Guide provides lists of medical and behavioral plans for intervention and continuous evaluation of the health of the older adult (Appendix F: preliminary care guide) (Boult et al., 2009). These are evidence-based and standardized care plans that include interventions for various health problems. In addition, the Guided Care nurse and primary geriatric physician meet to discuss the case, and modify the plan of care tailoring to make

individualized plan of care for the older adult. Then the Guided Care nurse would discuss the Preliminary Care guide with the older adult and the caregiver, modifying it further based on their needs, priorities, preferences and individualized intentions(Appendix G: care guide targets and red flags) (Boult et al., 2009). After finalizing the tailored plan of care the Guided Care nurse makes a user-friendly copy of the health status and specific plan of care to the older adult and the caregiver (Boult et al., 2009). In Lebanon, the Guided Care nurse would adopt the health information technology (HIT) system to provide best practice for older adults in the community based on evidence-based and standardized information, and guidelines.

3. Monitoring the patient proactively

The advanced practice nurse or the Guided Care nurse would do the monitoring process on monthly basis via phone call and specified questions addressing the older adult's health status and needs. During the monitoring process, the Guided Care nurse uses specific evaluation tools to evaluate the plan of care, functional status, independency, quality of life and satisfaction of the older adult and their caregivers (Boult et al., 2009).

In addition, the older adults and caregivers are encouraged to call anytime for questions, clarifications and emergent needs. The Guided Care nurse helps the older adults and their caregivers by guiding, instructing and/or referring their needs to other health care professionals in the multidisciplinary team for more precise and specialized answers or interventions provided (Boult et al., 2009). In Lebanon, the phone call monitoring of the patients is applicable and older adults may feel comfortable having accessible resources to call to and ask for more information. As in my humble nursing

experience, I have encountered a lot of older adults and caregivers asking for my phone number as a resource for their individualized plan of care, medications list and medical questions. Intensive monitoring and follow up is essential for the continuity of care of the older adults and support of the caregivers. Hence, having well-organized follow up system might ease the process and the care provided at home to the older adults, decrease the burden on the caregivers, enhance the quality of care, and increase the overall satisfaction of the older adult patients and their caregivers in Lebanon.

4. Empowering the patient; encouraging self-management

The Guided Care nurse would use the Transtheoretical Model of Change to interview the older adult patients, motivate them and encourage them to use the self-management approach. The Transtheoretical Model is also called the Stages of Change Model is "an integrative, biopsychosocial model to conceptualize the process of intentional behavioral change"(Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992; and Prochaska & Velicer, 1997). The Transtheoretical Model has six stages of change as stated 1) precontemplation stage, in which the person would not be considering to perform the behavior; 2) contemplation stage where the person would be considering doing the behavior in the coming six months; 3) preparation stage where the patient would be planning to do the behavior in the next 30 days; 4) action stage where the person would implement the behavior for at least six months; 5) maintenance stage where the person would implement the behavior for over six months; and 6) termination stage, which is more specifically called and described as the relapse phase (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992; and Prochaska & Velicer, 1997). In addition, the authors describe the relapse phase, which

is not specified as one of the stages of change in the Transtheoretical Model, but is rather characterized by a return from action and maintenance stages to the earlier stages of change (precontemplation, contemplation, preparation) (Prochaska &DiClemente, 1983; Prochaska, DiClemente & Norcross, 1992; and Prochaska &Velicer, 1997) and (Appendix H: a picture of the Transtheoretical Model).For example the Guided Care nurse would assess and classify the older adult as in precontemplation stage, where the older adult is not ready to lifestyle change, contemplation stage where the older adult is getting ready to lifestyle change and preparation stage where the older adult is ready for lifestyle change. After assessing the older adult's stage of change the Guided Care nurse provides guidance, strategies and processes to help the older adult reach action stage (actual change process), maintenance stage (sustain action) and termination stage (where older adult has zero temptation to return to the old unhealthy lifestyle) and hence improving the quality of life by lifestyle changes.

In addition, to improve the older adult's self-efficacy in managing his/her own health and chronic conditions, the Guided Care nurse encourages the older adults and caregivers to take the Chronic Disease Self-Management Course, which is provided locally. The implementation of the self-management of the older adult's health status and chronic diseases is the integral process of the primary health care system (Bodeheimer, et al., 2002b). The Self-management process complements the traditional educational process done to the patients with chronic diseases by adding more detailed information and teaching more about problem solving skills (Bodeheimer, et al., 2002b). The multidisciplinary team promotes high quality of life, better outcome of care and independence of the older adult by involving him/her in the plan of care, implementation and in problem solving by teaching the self-management strategies

(Bodeheimer, et al., 2002b). Moreover, the central concept in the self-management strategies is the enhanced self-efficacy of patients whereby they become able to solve their own healthcare problems during their daily living (Bodeheimer, et al., 2002b). In Lebanon the Guided Care nurse in partnership with the geriatric physician would provide such helpful course for the older adults and their caregivers in the community to aid in self-management and improvement of the self-efficacy of the older adults.

5. Coordinating the work of the providers of care

The Guided Care nurse coordinates the plan of care with other health care providers in the multidisciplinary team by consultation process (Boult et al., 2009). In addition, he/she continuously adds all the updates to the plan of care to reflect the changes and progress of the patient and his/her health status. In Lebanon, this process is highly encouraged as well. The community outreach program in Lebanon would follow the Care Coordination Model used in the Guided Care program to minimize the dangerous consequences of the care fragmentation. The Care Coordination Model is an essential component of the Patient Centered Medical Home (PCMH) and other primary healthcare settings in the community. In addition, the Care Coordination Model is used by the healthcare multidisciplinary teams worldwide to reduce the fragmentation of care provided by the healthcare providers to the patients and their caregivers in the primary health care settings, to enhance the communication among multidisciplinary team members, enhance the referral and consultation process, improve the quality of the care coordination between multidisciplinary members, and enhance the communication transfer between hospital-based and primary care physicians (Gandhi, Sittig, Sussman, Fairchild, & Bates, 2000; McDonald, Sundaram, Bravata, et al., 2007; Kripalani,

LeFevre, Philips, Williams, Basaviah, & Baker, 2007; O'Malley, Tynan, Cohen, Kemper , & Davis, 2009).

The basic and most essential activities involved in the Care Coordination Model are: 1) ensuring the accountability of all the healthcare providers in the multidisciplinary teams; 2) providing patient support by properly assessing the patient's health status, transferring accurate information to other health care providers and primary healthcare settings, getting timely appointments and referrals to the patients, tracking the progress of the patients, and assisting in meeting their needs; 3) building a relationship and specific agreements with other healthcare professionals in the community by having shared expectations about multidisciplinary members' roles and responsibilities, developing preset criteria for specific specialty referrals of the patients, providing accurate and timely information to the emergency department when the patient is on his way for an admission to the emergency department, and ensuring timeliness and accurate consultation reports from other healthcare providers in the multidisciplinary team; 4) developing well organized tracking system for the patient to accurately provide updates on his/her health status and provide comprehensive and high quality care in a timely manner; and 5) optimize the health experience of the patients and their caregivers by informing them about changes in the plan of care, involving them in the plan of care and decision making, ensuring their consent for every procedure and easing transitions, appointments, referrals and continuity of high quality care (Gandhi et al., 2000; McDonald, et al., 2007; Kripalani et al., 2007; O'Malley et al., 2009).

6. Smoothening the patient's transition into and out of the hospital or other facility

The older adults and their caregivers are highly encouraged to contact their Guided Care nurse before any admission or transfer to any healthcare setting in the community to help them with the transition, coordinate the care and provide precise information of the health status of the patient to the hospital or other healthcare setting (Boult et al., 2009). This process of delivering the patient information to the health care system is very important for medication reconciliation, following up the progress of the patient, as well as providing for continuity of care and discharge process of the patient. In Lebanon, patients are sometimes admitted to a hospital with no information about their home medications, previous hospitalizations and even their health status. This makes the admission, plan of care and discharge process difficult and fragmented. In addition to the patients, the medical and nursing teams would also highly benefit from this defined process and provide coordinated comprehensive and high quality care to the older adults in the community.

7. Educating and supporting the caregivers

The Guided Care nurse provides initial assessment of the caregivers' information, and then provides continuous information and advice about caregiving and ad hoc telephone consultation (Boult et al., 2009). The Guided Care nurse provides information about the chronic conditions, manifestations, interventions, resources in the community, and support group information. In Lebanon, the older adults' caregivers would benefit from this support and education system by having less stress and burden, providing better care for their loved ones or other older adults in the home. As shown in the literature review, the caregiver's support and education is essential to provide high

quality care of older adults at homes and enhance the caregivers' satisfaction. There would be individualized support system for the caregivers based on their learning needs, and the Guided Care nurse would continue the support by providing the open communication system with the caregiver at all times.

8. Accessing community resources

The Guided Care nurse would provide to the older adult and their caregivers an updated database of all the resources available and accessible in their local community area that the older adult or the caregiver would need (Boult et al., 2009). Those resources are essential to support the caregivers and ease the continuity, transition, transfer and availability of care. In Lebanon, the Guided Care nurse would create an updated database of all the resources available in the community to ease the caring process of the older adult and their caregivers at home. In addition the Guided Care nurse would need the help of the Order of Nurses and Order of Physicians for the accuracy of the available resources in the community.

D. Physical Set Up/Equipment/Human Resources/Staffing Ratio

The Guided Care team needs a laptop or computer to be able to access the healthcare system, document patient information and update according to the needs and progress of the patient. The Guided Care team needs access to information technology and Internet to get support for its evidence based clinical activities. In addition, the Guided Care team needs an office for the Guided Care nurse and physician to be able to assess older adults and their caregivers during follow up appointments or initial assessment before home visits. The nurse's office should be near other physicians'

offices to be able to have open communication and interaction with them, the room should be well equipped for assessment and evaluation processes, and should have area for the computer and the documents. In Lebanon, the Guided Care nurse could use the same office, computer system and assessment tools of the geriatric physician he/she is partnering with.

Staffing ratio should be one Guided Care nurse and one geriatric physician for every 50 to 60 Guided Care older adults, with the support of the multidisciplinary team (Boult et al., 2009). The Guided Care multidisciplinary team should have geriatric specialty or be enrolled in the Guided Care certification process before starting the Guided Care community outreach program. The online six weeks course process of Guided Care is provided in the book and the end result is a certification (Appendix I: online courses).

To ensure ongoing Guided Care effectiveness and efficiency the Guided Care team should develop a reliable system to detect whenever the Guided Care older adult patient is admitted to any hospital and to provide proper communication with other multidisciplinary teams about the patient health status and progress. For example, the caregiver would be responsible to inform the Guided Care Team by open communication available about any medical issues that need addressing, about admission to any hospital or other healthcare setting. Moreover, the older adult who is enrolled in the Guided Care program would have Guided Care identification card with the contact numbers of the geriatric physician and the Guided Care nurse in case of emergency.

In addition, the cost, effectiveness and efficiency of the Guided Care program will be thoroughly studied after the small-scale pilot test and modification will be made

to increase the community outreach gradually to cover all regions in Lebanon. The Guided Care program, which will be initiated in Lebanon by the Guided Care Advance Practice Nurse/ Guided Care nurse and Geriatric Physician, will be evaluated to enhance and tailor the program to address Lebanese aging population and their healthcare needs. As stated earlier, it is proposed to start the service in the geriatrician's private clinic at AUBMC. The Guided Care nurse can use the screening area where initial history data is obtained at the clinic to do and document his/her patient assessment. Her services will be reimbursed by AUBMC. Then once the services grows and is expanded an outside facility may be rented and used if needed.

CHAPTER IV

EVALUATION, CONCLUSION AND RECOMMENDATION

As any other community outreach program, the Guided Care Community Outreach Program requires continuous monitoring of the care provided and its effect on patient outcomes. The continuous monitoring of the care provided is done through within team debriefing sessions of the multidisciplinary team members, the quality of life of older adults participating in the Guided Care program, and the satisfaction and quality of life of the caregivers. Another care monitoring and evaluation system shall be used by the administration to track the performance of the advanced practice nurse and other multidisciplinary team members based on the eight essential activities and standards of care. The Guided Care team shall continuously communicate with the geriatric professionals in the national gerontological associations and improve the complex processes by continuous improvement of the quality provided over time.

Other criteria that can be used to evaluate the impact of implementing the Guided Care include hospital readmission rates of older adults in the region served by the Guided Care team, length of hospital stays, emergency room visits and hospitalization costs, in addition to nursing home placement rates. These data can be collected before and after implementation of the Guided Care small-scale pilot test in the target region. A survey of physicians and nurses who work in settings that provide services to older adults can be done seeking their perception of the role and impact of the Guided Care Team.

In conclusion, the utilization of the Guided Care Model in Lebanon is feasible through the calibrations of multidisciplinary healthcare professionals from AUBMC. This model of care will guarantee a cost effective, high quality life for older adults and their caregivers in Lebanon.

The recommendations to ensure the success of the Community Outreach Program for older adults using the Guided Care Model in Lebanon is as follows:

a. To initiate the Guided Care program in Lebanon by using the Geriatric Advance Practice nurse/ Guided Care nurse and physician partnership approach with the help of the multidisciplinary team of healthcare professionals from the affiliated institution.
b. To submit a proposal to the administration about the Guided Care program to ensure their support.
c. To initiate the Guided Care program by small-scale pilot study and then increase gradually after evaluation of the program and enhancement of the limitations observed and faced during the pilot study.
d. To conduct awareness campaign informing about the availability of the Guided Care program with the literature review and evidence regarding cost-effectiveness, efficiency and applicability in Lebanon.
e. To use the Comprehensive assessment process of the older adult and the caregiver during the initial visit at the clinic.
f. Use of the evidence-based guided plan of care and management process.
g. To involve the older adults and their caregivers in development of personalized and prioritized care plan.

h. To provide intensive education and self-management of the older adults and the caregivers to ensure satisfaction and proper management of care of chronic illnesses and their consequences.
i. Ensure intensive home follow up after the initial assessment process.
j. Ensure the open communication process and available on phone for the older adult and their caregivers whenever they need to contact the Guided Care team.
k. Use of the Transtheoretical Model to encourage and support older adults in the lifestyle changes.
l. Use several evaluations and monitoring tools to ensure the high quality of care provided and cost effectiveness of the model.

Appendix

Appendix A: Job description of Guided Care Nurse

POSITION PROFILE/VACANCY ANNOUNCEMENT

POSITION TITLE: Guided Care nurse

Purpose:
To manage all aspects of patient-centered Guided Care for 50 to 60 frail elderly patients, working with one health care team. The nurse directly interfaces with physicians, health care teams, patients and their unpaid caregivers in managing patient care.

Accountabilities:
The ideal candidate will possess excellent interpersonal skills, with a flexible and creative approach to problems solving. The candidate will have a demonstrated ability of working effectively as a member of an interdisciplinary team, displaying good clinical judgment and decision-making skills. As a team member, the Guided Care nurse must possess excellent communication skills, both written and verbal, and an ability to listen and be assertive, as required. Central to the role of the Guided Care nurse is a commitment to "coaching" (rather than "teaching") patients to improve their health behaviors to attain their health-related goals. An ability to work independently is essential.

The Guided Care nurse will have a clear understanding of the role, and will demonstrate a commitment to implementation of the following accountabilities:

1. Comprehensive case management and care coordination for 50 to 60 frail elderly patients according to Guided Care principles. The Guided Care nurse is expected to provide the following services to each patient:
   a. Comprehensive geriatric home assessment
   b. Development and communication (with patient, caregiver and primary care physician/health care team) of a comprehensive care plan based on evidence-based best practice for chronic illness
   c. Pro-active management and follow-up (home visits and by telephone) according to care plan
   d. Management and coordination of all transitions in care:
      i. Communicate care plan to all providers in all settings of care (ED, hospital, rehabilitation facility, nursing home, home care and specialist)
      ii. Ensure that relevant providers receive timely clinical data for care treatment decisions in all settings of care (ED, hospital, rehabilitation facility, nursing home, home care and specialty care).
   e. Direct caregiver support, including ad hoc telephone advice
   f. Facilitation of patient and caregiver access to community resources relevant to patient's needs, including referrals to transportation programs, Meals on Wheels, senior centers, chore services, et cetera.
   g. Incorporation of self-care and shared decision making in all aspects of patient care.

Minimum requirements:
- Current licensure as a registered nurse in the state where the practice is located, and where the practice's patients live.
- Completion of an accredited course in Guided Care nursing (www.ijhn.jhmi.edu/calendar.asp). Tuition is free for nurses employed by practices participating in the Medicare Medical Home Demonstration.
- A Certificate in Guided Care Nursing issued by the American Nurses Credentialing Center.
- Three years of nursing experience, preferably with older patients.
- Proficient in computer use, the Internet, and health information technology.
- Ability to travel frequently to hospitals, skilled nursing facilities, patients' homes, and other sites where patients receive care (as indicated by patients' needs).

Appendix B: health history form

Health history form

Place patient ID here

Medical Record (Completed before home visit for initial assessment)

Date of birth:
Age:
Identifier:
E-mail address:
Address:
Phone Number:

Conditions: Congestive heart failure, dementia, falling, osteoporosis, constipation, depression, hypertension, persistent pain, COPD, Asthma, Diabetes, Insomnia, urinary incontinence, coronary artery disease, disability, osteoarthritis, others.

Most recent values: height, weight, blood pressure, heart rate, respiratory rate, crackles, pedal edema, BUN, creatinine, potassium, ALT, AST, total cholesterol, LDL, HDL, triglycerides, HgA1c, TSH, B12, oxygen saturation, creatinine clearance, urinary protein, X-ray, CT/ MRI, mammogram, ECG, ejection fraction, stress test, angiogram, dilated retinal exam, glucose finger stick test, bone density, colon/ sigmoidoscopy, stool blood.

List of chronic medications: name, dose, route, frequency, nature, reason, notes if discrepancy, overall adherence (good, fair, poor), allergies (substance, reaction, year).

Medical history: hospitalizations (hospital name, reason of admission, length of stay, month, year).

In home assessment: (initial home assessment date included)
List of health problems of greatest importance to the patient, nutritional assessment (0-21), GDS (0-15), Cage (0-4), MMSE (0-30), sec. Get up and go test, list of family and friends (caregivers, help, phone number, address, notes, emergency), insurance coverage, care providers (name of the specialty physicians, most recent visit, discipline, phone number, email address), services needed (transportation, cleaning, day care, chores, meals, other), exercises done (hours per day, times per week), actual diet consumed at home, tobacco and alcohol use, sleep pattern, urinary incontinence, fall in the past 6 months (how may times), fractures in the past year, use of devices(hearing aid, eyeglasses, cane, brace, prosthesis, bath bench, hospital bed, wheelchair, hand shower, grab bar, commode), tour of the home for safety issues.

Appendix C: patient consent/ authorization form sample

GUIDED CARE

[Date]

I, [patient's name], am a participant in the Guided Care program. As a Guided Care participant, I understand that I will work closely with a Guided Care nurse, who will provide the following services:

1. The Guided Care nurse will come to my home to get information about my health, medical history, my ability to do usual activities and my social situation. From this information, the nurse and my primary care doctor will work with me to develop an individualized plan for treating each of my health problems. This plan will be put on a computer to guide all the doctors who take care of me.
2. The Guided Care nurse will provide education and coaching about following a healthy life style and using medication properly.
3. The Guided Care nurse will help coordinate the work of all the doctors and other health care professionals involved in my care.
4. The Guided Care nurse will help me to find and use community services that may be helpful to me.
5. The Guided Care nurse will call me or I will call him/her about once a month to see how I am doing and to recommend changes such as in diet, medication or activities if necessary. If I am having health problems, the nurse might call more often.

As part of the Guided Care Program, I hereby authorize release of my medical record information by health care providers who have treated me or reviewed or analyzed my health care data. The health care provider(s) will be identified during talks with my Guided Care nurse. The purpose or need for such disclosure is to accurately assess and provide continuity of my care. My Guided Care nurse is [name of nurse]. Requested reports and documents can be faxed to my Guided Care nurse at [nurse's fax number].

This authorization does not expire. The following documents may be released:

☐	Inpatient records	☐	EKG
☐	Emergency department records	☐	Cath report
☐	Outpatient records	☐	Cardiology studies
☐	Lab tests	☐	Discharge summaries
☐	Operative reports	☐	Mental health record
☐	Other:		

Signature: **Date:**

If anyone other than the patient signs this form, please complete the following:

I _____ represent that I am the health care agent/guardian of the patient.
(Print name) (Circle one of the above)

If you are the health care agent or guardian, please provide proof of your authority to act on behalf of the patient.

Appendix D: caregiver assessment form

Caregiver Assessment Form

Identification information: name, street address, home phone, work phone, other phone (if applicable), e-mail address, age, gender, language spoken, employment (full, part time, neither), marital status, age of children (if married), transportation (car, public transportation, friends' help), general health status, relation to the older adult patient (spouse, partner, son, daughter, daughter-in-law, brother, sister, grandchild, neighbor, other), length of time providing help, average time spent with patient, living condition (do you live together? If not how long does it take to reach to his/her house?), name of people living in the household.

Needed help (specify if no help needed, caregiver help, others help with specific names and relation to the guided care older adult patient): feeding, dressing, bathing, showering, toileting, getting around inside the house, preparing meals, shopping, errands, laundry, housecleaning, making phone calls, paying bills, medication administration, monitoring symptoms and health, managing medical finances, scheduling medical appointments, arranging or providing transportation to appointments, and talking with physicians and nurses.

Level of stress: related to helping the older adult (none, low, medium, high).

Learning needs assessment: financial and legal information, chronic conditions (general information, managing symptoms, monitoring conditions, what to expect when caring someone with chronic conditions), training in specialized tasks (lifting techniques, correct operation of medical equipment, medication management, changing a diaper, inspecting skin for ulcers, taking blood pressure, pulse, counting respiration), stress management (how to manage stress, relaxation techniques, balance lifestyle, ask for help, solve problems related to caregiving).

Strengths and weaknesses: qualities and personal strengths, problems and difficulties the caregiver experiences in providing help, challenges caregiver face.

Classes offered: convenient time to attend the classes based on learning needs assessment.

Appendix E: condition specific assessment tools

Urinary Incontinence

Background

Year of onset _____

Surgery for urinary incontinence ❑ No
❑ Yes →
Suspension _____(year)
Injection _____(year)
Other _____

Cause
❑ Stress
❑ Urge
❑ Overflow
❑ Mixed
❑ Unknown
❑ Other: _____

Severity
Frequency _____ daytime episodes per week
Nocturia _____ episodes per night
Amount of urine lost:
❑ Large
❑ Medium
❑ Small

Consequences

Limits fluid intake	❑ Yes	❑ No
Limits number of trips outside the home	❑ Yes	❑ No
Limits sexual activity	❑ Yes	❑ No

Current management

Pads	❑ Yes	❑ No
Scheduled voiding	❑ Yes	❑ No
Pelvic muscle exercises	❑ Yes	❑ No
Urinary catheter	❑ Yes	❑ No
Bladder training	❑ Yes	❑ No

Previous management **Reason for stopping or not starting**

❑ None

Medicine _____ _____
Other _____ _____

Appendix E: condition specific assessment tools, continued

Congestive Heart Failure (CHF)

Background

Year of onset _____

Most recent year of hospital admission for CHF _____

Most recent year of hospital admission for myocardial infarction (MI) _____

Pacemaker
- ❑ Yes
- ❑ No

Cause
- ❑ MI
- ❑ Valve problem
- ❑ Rhythm problem

Severity of dyspnea
- ❑ At rest
- ❑ Few yards
- ❑ 1 block
- ❑ One-fourth mile
- ❑ One flight of stairs

Positional effects
- ❑ Lying flat
- ❑ Sleeping

Equipment

Scale → functional ❑ Yes ❑ No

Current management

Monitoring weight at home: _____ time(s)/month

Previous management

❑ None

Reason for stopping or not starting

Medicine _____ _____

Other _____ _____

Appendix F: preliminary care guide

Preliminary Care Guide

- ✓ Health problems of greatest importance to the patient:
- ✓ Guided Care Nurse's impressions:
- ✓ Geriatric Physician's impressions:
- ✓ List of chronic conditions: (descriptive information)
- ✓ List of substance allergies: (substance, reaction, year)
- ✓ List of medications: (name, dose, route, frequency, discrepancy, nature, reason, potential interaction, change of medications)
- ✓ Management: based on recommended guidelines (diet, activity, monitoring, follow up needed, specialty consultation needed, referrals needed)
- ✓ Health maintenance options (some may not be applicable for all patients): (immunization, screening, annual check-up, recommended home modifications, coaching for risk reduction, self-management, chronic disease self-management, referral to rehab)

Appendix G: care guide targets and red flags

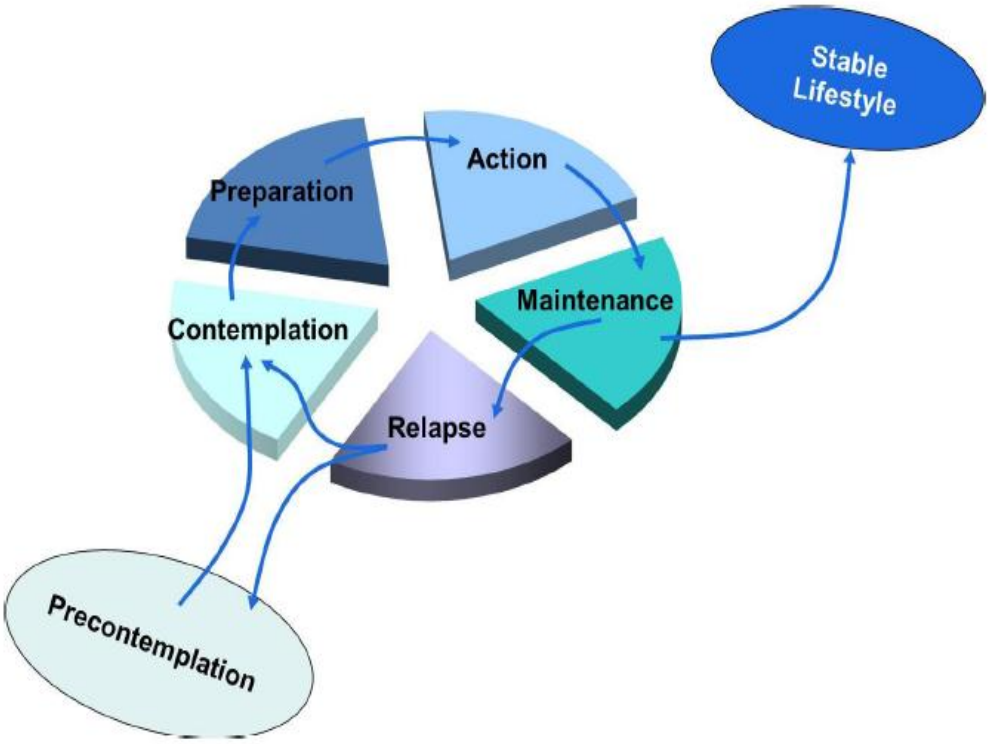
Care Guide Targets and Red Flags

Condition	Targets	Red Flags
General	Adherence to medication	Almost out of medication
Constipation	Three soft stools per week Minimal straining Minimal bloating	Abdominal pain Nausea and vomit Rectal bleed
Depression	Depression does not limit ability to do desired activities	Increased symptoms Increased use of alcohol Suicidal thoughts
Osteoarthritis	Osteoarthritis pain does not limit ability to do desired activities	Increased pain
Persistent pain	Pain does not limit ability to do desired activities	Increased pain New or increased confusion Falls

Example of Constipation Guidelines:

- ✓ Diet: fluid intake, high fiber diet
- ✓ Education: discuss range of "normal" bowel movement
- ✓ Medications: laxatives, discuss minimizing constipating medications like opiates, iron, antacids, anti-cholinergic, anti-histamine, anti-psychotic (if applicable)
- ✓ Physical activity: regular mild-moderate exercises

Appendix H: a picture of the Transtheoretical Model



Appendix I: online courses

Online Courses

- ✓ **Guide Care Nursing Course:** four units and required modules 1) "foundation of guided care nursing", 2) "establishing new patients and caregivers", 3) "ongoing guided care", 4) "conducting guided care".
- ✓ **Seventeen elective modules:** patient education, elder abuse, and assessment and management of heart failure, coronary artery disease, chronic obstructive pulmonary disease, hypertension, diabetes, dementia, depression, urinary incontinence, delirium, chronic pain, constipation, falls, sleep disorders, osteoarthritis, osteoporosis.
- ✓ **Physicians in medical home course:** 1) managing a medical home, 2) assessing readiness to change practice, 3) leading change, 4) participating on interdisciplinary teams, 5) communicating with chronic ill patients, 6) supporting self-management, 7) care management, 8) continuing of care for patients, and 9) health information technology.
- ✓ **Methods:** complete modules, final assessment quiz, watch audio-enhanced PowerPoint presentations, self-management questions, video vignette, optional resources for further learning, final quiz. Each module needs 30-60 minutes to complete and they are linked to case studies to further facilitate learning.
- ✓ **Evaluation:** at the end of each module there is online multiple-choice examination. Those who pass examination will receive a certificate and credit for completing the course and medical education.
- ✓ **Registration:** online

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