Development of a Care Delivery Model for High-Need Older Adults in the Community

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Background: High-need older adults have multiple needs and require different types of care services. Care coordinators in community care centers in Taiwan, however, often experience difficulties in providing sufficient care services because of the inadequate capacity of case management.

Objective: The aim of this study was to develop a realistic care delivery model for the care coordinators to manage the care of high-need, community-dwelling older adults.

Methods: Focus-group interviews concerning elements and process for establishing a care delivery model were conducted with 12 care management experts in two groups: the practical work group (three registered nurses and three social workers) and the care management group (three care managers and three care management supervisors). The interviews were video-recorded and subjected to content analysis.

Results: A five-stage care delivery model was formulated: case screening, case assessment, care plan, care delivery, and follow-up evaluation. Six types of high-need older adults were identified: those living with disability, solitude, dementia, depression, elder abuse, and poverty. A list of categorized care services, including care resources, social welfare resources, and caregiver resources, was then used as a guide for case management and care delivery.

Discussion: The developed model—consisting a classification of services for different types of high-need older adults—serves as a guide for care coordinators in community care centers to make better decisions on service linkages, resource management, and care plan monitoring.

Key Words: care coordinator • care management • case management • community care center • high-need older adults

Nursing Research, September/October 2019, Vol 68, No 5, 390–397

The global population is aging. The number of people over the age of 65 years old was approximately 6.12 billion in 2017, accounting for 8.3% of the total world population; this number is expected to reach 15.46 billion in 2050 and 25.15 billion in 2100—which is 4.11 times more than the population of older adults in 2017 (United Nations, DESA/Population Division, 2017). Similar to the world trend, Taiwan statistics reveal an aging population, and it is expected to continue (Ministry of the Interior, Department of Statistics, 2017). It is recognized that age-related changes in many cases contribute to chronic conditions or disabilities, resulting in complex and long-term care (LTC) needs (Kuluski, Ho, Hans, & Nelson, 2017; Marengoni et al., 2011). In response to the challenge of a rapidly aging population and the tremendous demand for LTC services for frail or disabled older adults, community-based services have been developed to achieve the goal of aging in the local community and to foster the dignity and the well-being of these special populations.

The establishment of community care centers (CCCs) has been an innovative community-based service in Taiwan since 2005. The main objective is to leverage local workforce and resources to provide preventive care for older adults (Ministry of Health and Welfare, 2013). CCCs are usually established by neighborhood magistrate offices and nongovernmental organizations. Most are small and receive partial funding from their local governments. CCCs operate as miniscale centers with programs and services, such as home visits, telephone check-ups, meals on wheels, health promotion activities, and related resource referrals (Chiu & Fu, 2014). Due to both an insufficient workforce and funding, care managers in most CCCs are center managers and directors who are relatively old in age, less educated, and lack a professional background in elderly care, resulting in the lack of expertise to respond to the complex care needs of older adults (Chiu & Fu, 2014; Ferry, 2017). Only a few CCCs employ teams of social workers as care

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DOI: 10.1097/NNR.0000000000000374

managers to assess the needs of community-dwelling older adults and provide access to services that help to alleviate suffering and enhance the quality of life (Ferry, 2017). The primary challenge confronting most care managers in CCCs is that they are unprepared for the demands placed upon them. They lack adequate professional training and specific guidance, which hinders their ability to timely identify those older adults in desperate need of help and make appropriate service linkages for further professional intervention. This results in poor use of already limited resources.

The definition of older adults with high needs is inconsistent internationally. One aspect of a definition to consider is frailty. Frailty can be described as an accumulation of physical, psychological, and social problems, which enhances the risk of negative health outcomes such as functional decline, institutionalization, or death (van Campen, 2011). Because of multiple conditions and their smaller social capital, frail older adults tend to be at risk when they live alone (Verver, Merten, Robben, & Wagner, 2018). In clinical practice, people who have three or more chronic diseases and a functional limitation in their ability to care for themselves or perform routine daily tasks are considered as high-need clients (Hayes et al., 2016). Depression may be another indicator of older adults with high needs (Gitlin et al., 2013). Other indicators included low income or poverty, dementia, minority status, and poor overall health (Beach et al., 2018). Accordingly, "older adults with high needs" refers to physically disabled, cognitively impaired, psychologically depressed older adults or those who are living alone or experiencing elder abuse or living at a poverty level in this study. The high-need, community-dwelling older adults have multiple needs and require different types of care services. However, in Taiwan, they fail to receive all the services they require because of ineligibility of receiving the services, inflexible service delivery, and inadequate delivery of information (Ferry, 2017; Mirzaei et al., 2013). With the ineffective coordination of care and the aforementioned professional incapacity of most care managers in CCCs, the existing services provided do not satisfy the miscellaneous needs of high-need older adults. There is a clear need for innovative models to meet the demands of the high-need, community-dwelling older adults while delaying hospitalization and supporting their desire to remain in their own homes for as long as possible.

Case management has been suggested as an approach for handling the complex care needs of older adults (Hudon et al., 2017; You, Dunt, Doyle, & Hsueh, 2012). Older adults can benefit from case management, which provides close monitoring of changes in their condition and implementing a plan of care (Glendenning-Napoli, Dowling, Pulvino, Baillargeon, & Raimer, 2012; Phillips, Han, Petterson, Makaroff, & Liaw, 2014). A substantial number of case management models or studies for older adults have been published (Asakawa et al., 2017; Leonard & Miller, 2012; Low, Yap, & Brodaty, 2011). Some models focused on the subjectivity of services, some focused on the approach of delivery, and others focused on the degree of service involvement. It also has been suggested that the basic case management functions include screening or case finding, assessment, care planning, service provision, monitoring, and reassessment (Case Management Society of America, 2010; Parsons et al., 2012; Ross, Curry, & Goodwin, 2011). Evidence of the effectiveness of previous case management models, nevertheless, have been contradictory (Bleijenberg et al., 2016; Eklund, Wilhelmson, Gustafsson, Landahl, & Dahlin-Ivanoff, 2013; Low et al., 2011). In most of the models, care service plans are usually designed without determining the concrete contents of care, and service provisions are not based on the specific condition of each older adult. The quality of care service plans for older adults, as a result, has been dependent upon the particular experience or attitude of a care manager (King, Boyd, Raphael, & Jull, 2018; Kato, Tsuru, & Iizuka, 2013). Moreover, none of the aforementioned models was designed for high-need, community-dwelling older adults and used by nonprofessional care managers. Thus, it was difficult to determine which care services should be included. A more realistic care delivery model is necessary for care managers in CCCs to design care service plans according to the specific condition of each high-need older adult, therefore assisting the high-need older adults to seek care at the right level and at the right time. The purpose of this study was to develop a high-need, community-dwelling older adults care delivery model as an easy follow guideline for care managers in CCCs in Taiwan to generate greater efficiencies in service delivery.

METHODS

Design

Focus-group interviews were conducted to obtain care management experts' in-depth and more contextualized insights into developing a care delivery model for high-need, community-dwelling older adults in Taiwan. The feedback and opinions from the experts were used to revise and develop the model.

Participants

Twelve purposively chosen care management experts participated in the focus-group interviews: three practitioners specialized in geriatrics care, three practitioners specialized in social work, three care management supervisors, and three care managers. Inclusion criteria were that the practitioners had at least a 2-year working experience with older adults, the care management supervisors had at least a 2-year managing experience, and the care managers had worked as care managers and caring for older adults for at least 2 years. The six practitioners were recommended by the accreditation evaluation committees of the CCCs. The six care management supervisors and managers who were educated as nurses or social workers were recruited from different LTC management centers. Different professional backgrounds and practical working

experiences of the participants permitted the researchers to compare perspectives from different types of individuals on their experiences concerning community-based care service provisions (Patton, 2014).

Ethical Considerations

This study was approved by the human research ethics committee of a university hospital in Taiwan (KMUHIRB-F(I)-20170070). Written informed consent was obtained from the participants after providing them with an explanation of the study. The participants were also informed that confidentiality would be maintained when presenting the results.

Data Collection

The study was conducted between January and May 2018. A preliminary version of the model was developed by the researchers based on the LTC service procedure suggested by the Taiwanese Government (Ministry of Health and Welfare, 2017) and on a literature review of case management models (Kristensson, Ekwall, Jakobsson, Midlöv, & Hallberg, 2010; Leonard & Miller, 2012; Ross et al., 2011) before the focus-group interviews. It comprised five stages:

1. service application, where applications were from the older adult's initiative or from coherent units or from the general public's referrals;
2. eligibility review, where volunteers carried out home visits and tried to search for high-need older adults by utilizing a screening instrument;
3. care plan, where the care manager made an individualized care plan according to the high-need older adult's situation;
4. care delivery, where a list of categorized health and social services was provided to the care manager for making the care plan and service linkages; and
5. follow-up evaluation, where the care manager assessed the high-need older adult's situation 1 month after implementing the care plan and then regularly carried out an assessment every 3 months.

Two focus-group interviews were conducted. One group consisted of six practitioners who specialized in geriatrics care and social work. Another group consisted of six care management supervisors and care managers. Both focus-group interviews followed the approach outlined by Krueger and Casey (2014) and were facilitated by semistructured interview guides. An interview guide was developed based on the study objectives and relevant research literature. The experts were asked to evaluate stages in the preliminary version of the model and to provide their opinions and suggestions for model revision. The developed interview guide asked participants to provide opinions concerning (a) the appropriateness of the five stages; (b) the appropriateness of the process and measures for identification and enrollment; (c) the duration of the eligibility review and care plan making; (d) the appropriateness of services for different types of high-need, community-dwelling older adults; and (e) the appropriateness of the follow-up evaluation mechanism and the cycle of the care delivery model. All focus-group sessions took place at a meeting room of the university and started with a clarification of the aim of the interview. The focus groups were led by a facilitator and accompanied by two note-takers. Each focus-group interview lasted 90 minutes. All the interviews were video-recorded. Reflective notes regarding the level of consensus or variability in the opinions imparted by participants were also documented (Kidd & Parshall, 2000) by the facilitator and note-takers.

Data Analysis

Content analysis was used to analyze the data. The analysis was influenced by Lune and Berg (2016), who suggest that the content analysis may include a manifest analysis in which the visible and the obvious in the text were described. Therefore, the transcribed interviews were read several times independently and critically analyzed by the facilitator and the two note-takers to identify important opinions and suggestions with regard to developing the care delivery model. The researchers then discussed the findings until a consensus was reached. The trustworthiness of the analysis was determined through peer debriefing, member checking, and reviewing the previous literature on case management models and care management models to determine similarities of interpretation (Roberts, Priest, & Traynor, 2006). After the consensus had been reached among the research team members, the results were sent to the experts for checking the accuracy of representing their opinions.

RESULTS

Six practitioners, who had an average of 19 years of work experience with older adults, and six care management supervisors and care managers, who had an average of 13 years of work experience with older adults, participated in the focus-group interviews. The results revealed two main themes that needed to be modified for developing the final version of the care delivery model for high-need, community-dwelling older adults: (a) professional capacity and (b) desired process.

Professional Capacity

Because of their professional incapacity, most care managers in CCCs could only help high-need older adults by allocating resources and making linkages. Thus, the experts suggested that the care managers in CCCs could be called by the term "care coordinator." Care managers in the LTC management centers are nurses, social workers, physical therapists, occupational therapists, pharmacists, nutritionists, or psychologists with a bachelor's degree and at least 2 years of work experience. Unlike these care managers, the care managers in the CCCs do not have expertise in elderly care. In addition, care managers in LTC management centers can be seen conceptually as an agent of the case, taking a "whole person" or a "whole case situation" and identifying potential problems, rather than solely focusing on problems related to disease or problems that were the

causes of the need for care (Hickam et al., 2013; You, Dunt, & Doyle, 2016). Care managers in CCCs, on the other hand, lacked professional capacity to consider the whole situation of a case.

Examples:

> Care managers in the community care centers aren't social workers. They don't have professional background. (P1)

> The current care management system in Taiwan requires lots of elder care professionals. The workforce in the community care centers isn't able to meet the requirement. (P4)

> Care managers in the community care centers don't have professional background to conduct case managements. (CS1)

The term "eligibility review" was changed to "case screening." Because the preliminary screening was carried out by volunteers, they may lack the professional background skills or experiences to identify the eligibility of high-need older adults.

Examples:

> The volunteers aren't able to identify older adults with high needs. (P5)

> Many volunteers are 70 years old and only have an elementary level education. They aren't social workers. They can use the screening tool but may not be able to make right judgments. (CS2)

Desired Process

In the preliminary model, a passive role of waiting for applications from the following agencies is taken: (a) the case applied for the services on his or her own initiative; (b) coherent units, such as health bureaus, social councils, police stations, and neighborhood magistrates gave referrals; and (c) the general public reported potential cases. Instead, the experts suggested that CCCs should adopt a proactive approach by seeking high-need older adults in the community. The stage of service application in the preliminary model was thus eliminated.

Examples:

> Because community care centers provide home visit services, they should actively seek older adults with high needs in the community. (P2)

> Volunteers regularly visit older adults in the community. They can find out potential older adults with high needs. (CS3)

"Case assessment" was added in as the second stage in the model. The expert panel of care management supervisors and care managers indicated that it required a second opinion and possibly a more qualified and experienced person, such as a care coordinator, to conduct the assessment again to confirm the preliminary case screening done by volunteers. Moreover, the item of resource utilization was also suggested to be added in this stage to have a better understanding of the case situation.

Examples:

> Volunteers aren't social workers. They don't have professional background. A more experienced care coordinator should verify the screening results. (CM1)

> The care coordinator should conduct an assessment after the volunteer to check whether the volunteer has made the right judgment of identifying older adults with high needs. (CM3)

> The care coordinator should record the resource that the older adult has been using. (CS1)

A stage was added after the stage of care delivery (where volunteers visited the cases every other week) as the care management supervisors and care managers pointed out that it was better to carry out follow-up visits in order to examine the effectiveness of service linkages. Because of a concern for the care coordinators' workloads and because the volunteers had already conducted home visits every other week, carrying out the follow-up evaluation 1 month after the care plan implementation—as designed in the preliminary model—was not suggested. Moreover, the item resource utilization was added and assessed at the follow-up evaluation stage in order to review resource utilization.

Examples:

> Volunteers could visit the older adults every other week to check whether the older adult received the needed services adequately. The care coordinator does not have time checking the older adult's condition so frequently. (CM2)

> Since the volunteer has visited the older adults with high needs every other week, the care coordinator could conduct the follow-up evaluation three months after the older adults received the services. (CS3)

> The care coordinator should review the resource the older adult used again to check whether he or she has received the right resource. (CM3)

The Finalized Model

Incorporating suggestions from the focus-group interviews, the preliminary version of high-need, community-dwelling older adults care delivery model was revised. The finalized model comprised five stages, namely, case screening, case assessment, care plan, care delivery, and follow-up evaluation (Figure 1).

Case Screening Volunteers in CCCs carried out home visits, and a screening instrument was used for preliminary needs

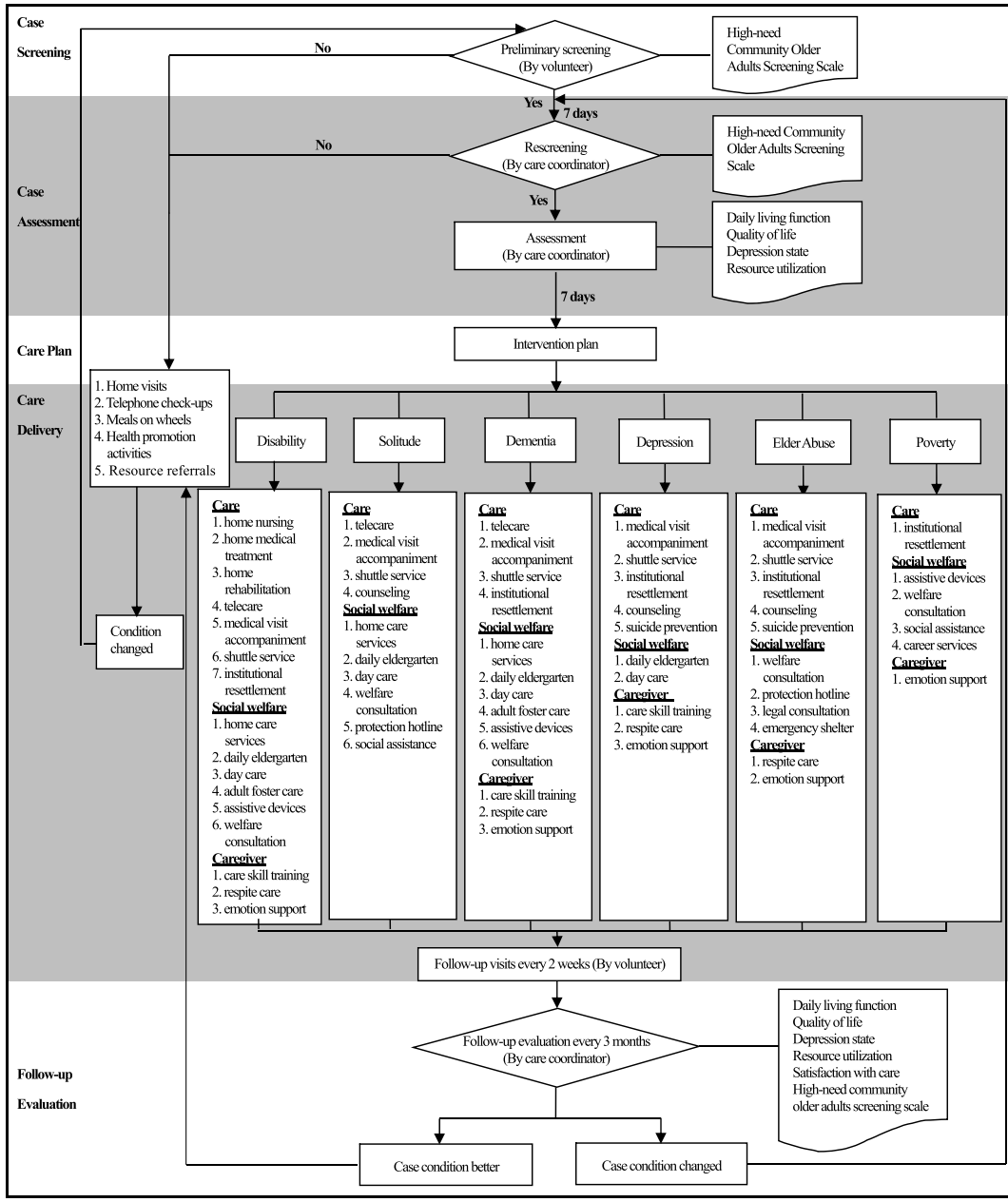

FIGURE 1. The high-need, community-dwelling older adults care delivery model.

assessment to identify potential community-dwelling older adults with high needs. The older adults were assessed for whether they had fallen into one of the six high-need types: disability, solitude, dementia, depression, elder abuse, and poverty. Within 7 days of receiving an older adult's preliminary screening results, a care coordinator in the CCC would contact the older adult and assess his or her condition again.

Case Assessment Care coordinators rescreened the potential cases using the screening instrument. Conditions of the cases' daily living functional ability, quality of life, and depression state were also assessed. With those assessments, care coordinators were able to be more certain that the older adults met the eligibility criteria. Resource utilization was also examined at this stage to better understand the case situation. It should be noted that when a case was not identified as a high-need older adult, he or she would receive the regular services provided by the CCC, including home visits, telephone check-ups, meals on wheels, health promotion activities, and related resource referrals. When the case's conditions changed, he or she would be assessed again.

Care Plan According to the types of the high-need older adults, individualized service plans were made by the care coordinators within 7 days.

Care Delivery Care coordinators made service linkages according to the needs of the different types of high-need older adults. The suggested services to be arranged were mainly under three categories, namely, care resources (such as home nursing, home medical treatment, home rehabilitation, telecare, medical visit accompaniment, shuttle service, and institutional resettlement), social welfare resources (such as home care services, daily eldergarten, day care, adult foster care, assistive devices, and welfare consultation), and caregiver resources (such as care skill training, respite care, and emotional support; Figure 1). The list of categorized services was used as a guide for the care coordinator to comprehensively design care plans and make service linkages.

Follow-Up Evaluation After the implementation of the care plan, volunteers in the CCCs carried out home visits every other week to follow up the consequences of the intervention. Care coordinators then assessed the cases' daily living functional ability, quality of life, and depression state every 3 months. A questionnaire was also used to determine satisfaction with the services received. In addition, the resources available to compensate for the disabilities of the case were evaluated in order to make sure that resource distribution was at the right place and at the right time. The screening instrument was used again to identify whether the case was still a high-need older adult.

When the conditions of a high-need older adult became better after participating in the care plan, he or she reverted to the regular services provided by the CCC, and thus, the case was closed. Nevertheless, if the conditions of a high-need older adult did not change or had a new condition that was identified as a potential case of a high-need older adult, the care coordinator assessed the older adult's conditions again and made a new intervention plan. Thus, the process of the care delivery for high-need, community-dwelling older adults was back to Stage 2 in the model: case assessment.

DISCUSSION

The main objective of this study was to develop a working model that can be used to design appropriate care service plans and accompanying care service linkages for high-need, community-dwelling older adults. Focus-group interviews were conducted with different disciplines to verify the elements of a straightforward and easy-to-use care delivery model from different perspectives. The model included case screening, case assessment, care plan, care delivery, and follow-up evaluation. Person-centeredness is one component that has been stated to be one of the theoretical components of case management (Case Management Society of America, 2010), and the positive effects of person-centeredness to meet the person's unmet service needs have also been found in previous studies (Kuluski et al., 2017; Sandberg, Jakobsson, Midlöv, & Kristensson, 2014; You et al., 2012). Some studies, however, designed care service plans without determining the concrete contents of care that was based on the specific condition of each older adult (Eklund & Wilhelmson, 2009). The high-need, community-dwelling older adults care delivery model differs from the rest of models in that a case management model with a list of categorized care services was provided to care coordinators in a realistic and easy-to-follow manner. Care coordinators would make better referral decisions when they were aware of the services available and the service delivery processes and, at the same time, the unique goals and needs of the high-need older adults were the focus (Kristensson et al., 2010). Moreover, care coordinators followed up the cases periodically to ensure that the services are working and to adjust services as the needs of the cases changed. This dynamic pattern would make the high-need older adults feel that someone is monitoring their situations and make them feel at ease.

Some emerging issues of the care delivery model for high-need, community-dwelling older adults have been raised by the experts in this study and suggested in previous studies. The professional competence of care coordinators—most of whom are CCC managers and directors—is insufficient and may result in repercussions for the high-need, community-dwelling older adults (Kuluski et al., 2017; Lin, Chen, & Cheng, 2014). The care coordinators' capacity to do geriatric assessments, make care service plans, and develop professional care resource management should be strengthened. Trainings for and education of care coordinators are crucial (Sandberg et al., 2014). As a result, it is suggested that care coordinators be encouraged to complete advanced and accredited training, participate in regular continuing education activities, and receive ongoing supervision in the future. For now, the model has a feasible design and can be integrated into the existing CCC service system. For care coordinators without the specific skills for making adequate service linkages, the model provides important lessons for them as they seek to implement comprehensive care delivery initiatives.

Challenges of the care coordinators' interprofessional collaboration competence and teamwork capabilities appear to be important for the effects seen in service utilization (Asakawa et al., 2017; Lin et al., 2014). It is important to encourage good communication and relationships among those arranging service delivery and those receiving care. Effective management that engages older adults, family caregivers, care coordinators, and service providers in collaboratively identifying the high-need older adults' needs and goals and in implementing individualized care service plans is essential to achieve higher value healthcare. As a result, it is vital that opportunities are created for care coordinators and service

providers to have regular exchanges of ideas, develop stronger trust, share information, and work more effectively together based on the developed care delivery model.

It is recognized that the coordination of care by different service providers should result in better and more cost-effective care outcomes (Lin et al., 2014; Prgomet et al., 2017). Under the current inadequate delivery of information in the LTC system in Taiwan, it has been found to be difficult to fully integrate the data of cases and services across organizational and professional boundaries. Strengthening links between levels of care and creating systems for shared access to up-to-date case records for all carers are vital. It ensures that the services meet the users' needs without duplication and as efficiently as possible. In the future, within the care delivery model, single-entry, point-of-service access to provide signposting and mobilize services could be established. There is also an urgent need to establish a monitoring system to improve the continuity of care and services.

Limitations

The care delivery model is designed specifically for high-need, community-dwelling older adults. Although there is a concern that the model may be too specific to be generalized to other contexts, it can serve as the basis. Depending on the context and case population, the model could be adapted to suit specific objectives. Each context needs to take stock of its unique situation to identify the best care delivery model for those in its context. Furthermore, the focus-group interviews were held with a minimum size of care experts for the initial development of the model. Comprehensive process evaluations and case satisfaction may provide additional information in determining the success of the model. Researchers may conduct future studies in different societies with different welfare programs and use larger, more representative samples, in order to better understand the effectiveness of the care delivery model in its application to actual cases. In the end, this future work may help in developing appropriate services and support for high-need, community-dwelling older adults.

Conclusion

This study provides a beginning of an understanding concerning how services for high-need, community-dwelling older adults could be identified and referred by care coordinators in CCCs in Taiwan. The model could facilitate proper and timely decision-making for care coordinators to guide appropriate care service planning and the allocation of limited resources. Although developed specific to Taiwan, the care delivery model is relevant for other nations that face population aging and that are developing their policies and practices to support the ability to live in one's home and community safely, independently, and comfortably, regardless of age, income, or ability level.

Accepted for publication December 1, 2018.

Research reported in this publication was supported by the Ministry of Science and Technology, Taiwan (MOST 107-2314-B-037-009-MY3). The funding source supported the study financially and had no involvement in the study design, data collection, analysis and interpretation of data, writing of the report, and decision to submit the paper for publication.

The authors thank Professor Frank Belcastro for his superlative manuscript editing and the 12 experts in care management for their generous participation.

The authors have no conflicts of interest to report.

The Institutional Review Board of Kaohsiung Medical University Chung-Ho Memorial Hospital approved this study (KMUHIRB-F(I)-20170070).

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