

Research on the Establishment of a Long-Term Care System for the Elderly with Alzheimer's Disease Under the Background of Long-Term Care Insurance: A Literature Review

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Abstract: With the aging of the country's population structure, the problem of social pensions is becoming more and more serious. As for the issue of social pension, the elderly with Alzheimer's disease are a special group, and the issue of care services for these elderly has attracted widespread attention from society. However, judging from the current level of social security provided to the elderly with dementia in the country, there is a serious imbalance between supply and demand. Therefore, this problem needs to be solved urgently and is of great significance for further improving the country's social pension security system. Routine care is limited to hospitals and mainly focuses on the patient's condition. Patients fail to receive comprehensive care services and the effect is not ideal. Therefore, in order to improve patients' cognitive function and quality of life, and learn from international experience, a "community-institution-home" three-dimensional linkage care model based on long-term care insurance can be established. The application of this model can effectively solve and further improve the country's elderly care and social security system.

Keywords: Long-term care insurance; Elderly; Alzheimer's disease; Long-term care system

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1. Introduction

Alzheimer's disease (AD) is a neurodegenerative disease that usually has a slow onset and progression. AD is a progressive brain disease and has become the main cause of dementia, accounting for approximately 60–80%^[1]. AD is the disease with the highest disability rate and the most serious burden in the world. It not only seriously affects the living ability, social interaction, and mental psychology of elderly patients, but also seriously threatens the patient's life. It also causes great harm to family members and society. The rescue difficulties and economic and social burdens have been considered by the World Health Organization to be a major global public health problem. At present, the incidence of AD in China continues to increase, and the social and

economic burden is becoming increasingly apparent. It has become a major disease and social problem that seriously endangers the health of the Chinese population. According to a national cross-sectional study in 2020, there were 15.07 million cases of dementia among people aged 60 and above in China, of which 9.83 million were AD ^[2].

Neuronal damage in Alzheimer's disease extends to parts of the brain that enable basic body functions such as walking and swallowing. The individual is bedridden and requires round-the-clock care. Ultimately, Alzheimer's disease is fatal. Studies show that people aged 65 and older survive on average four to eight years after being diagnosed with Alzheimer's dementia ^[3]. There is currently no clinical cure for AD, but reports show ^[4,5] that effective care is of great significance in alleviating the patient's condition and improving the patient's quality of life. Alzheimer's disease is a special condition. Simply relying on treatment and care when patients are hospitalized cannot control the progression of the disease in the long term. Patients have many safety risks both during hospitalization and at home. However, routine care is limited to hospitals and is mainly based on the patient's condition as the main body of the service, the patient fails to receive comprehensive care services, and the effect is not ideal. Therefore, in order to improve patients' cognitive function and quality of life, and learn from international experience, a "community-institution-home" three-dimensional linkage care model based on long-term care insurance can be established.

2. International experience in long-term care for the elderly with AD

2.1. Japan

In 1982, the Japanese government began to implement the "Mental Health Counseling Project for the Elderly," and with the development of this project, knowledge about dementia was spread. Influenced by traditional culture, home care is generally provided by female family members such as the eldest daughter-in-law or eldest daughter. Recently, as the number of elderly people with dementia continues to grow and the work rate of women increases, there is a shortage of informal caregivers, and the care needs and contradictions of the elderly with dementia have become increasingly prominent. In 1997, the Japanese government began to try to establish "family-based co-living institutions for the elderly with dementia," referred to as "group families," for elderly people with obvious symptoms of dementia who lacked the necessary ability to live independently but had easy mobility. In 2012, a national plan to deal with dementia was proposed, the "Five-Year Plan for Dementia Countermeasures," also known as the "Orange Plan." After years of exploration and policy adjustments, Japan is gradually forming its own characteristics for the elderly with a dementia care system ^[6].

Since 1989, the Japanese government has selected qualified institutions to open "Alzheimer's Disease Centers" through financial subsidies and other forms to carry out dementia diagnosis and treatment, allowing residents to receive diagnosis nearby. A "Dementia Early Stage Centralized Support Group" is formed by nurses, health practitioners, psychologists, and other professionals. It visits the families of elderly people with mild dementia, recommends professional diagnostic institutions to the families of elderly people with dementia through understanding and negotiation, conducts a comprehensive evaluation of the disease, and provides consultation on how to deal with situations that may arise during development, forming a medical system that combines local diagnosis and early intervention.

The Japanese government first proposed providing daycare services for elderly people with dementia in 1992. However, due to space restrictions, the conditions for receiving elderly people with dementia were insufficient. Since the late 1990s, a small-scale, multi-service, and multi-business care system has gradually been formed. However, long-term isolated living makes the elderly with dementia extremely sensitive to changes in the surrounding environment and interpersonal relationships, which can easily aggravate the

condition of dementia patients. Daycare facilities for people with dementia alleviate this problem and provide entertainment, meal assistance, bathing assistance, rehabilitation, and other services to the elderly. At the same time, the agency also provides medication feeding, daily visits, emergency visits, emergency check-in services, and nighttime in-home care.

2.2. Germany

In 1989, Germany passed the “Health Insurance Reform Law” and Germany began to initially provide home-based long-term care services. However, this initiative was unable to meet the continued increase in care needs. The lack of a long-term care insurance system wastes medical resources and puts heavy pressure on medical insurance. In order to solve the financial dilemma of social assistance and medical insurance, Germany’s long-term care insurance system came into being. In 1994, Germany promulgated the “Long-Term Care Insurance Act” and established a mandatory long-term care insurance system through legislation. Long-term care insurance became part of the social insurance system and constituted together with unemployment insurance, medical insurance, pension insurance, and accident insurance.

Long-term care services for the elderly with dementia in Germany can be divided into home care, institutional care, and elderly apartment care according to the type of service. Home care also includes informal care services and professional home care agencies that provide door-to-door care services and temporary care. There are many types of facilities that provide institutional care, common ones include nursing homes, nursing homes, daycare centers, etc. Specifically, it can be divided into all-day care institutions, day/night care institutions, short-term care institutions, other types of institutions, etc. Home care services can be provided by family members and relatives to provide daily care services to those who need care, or medical personnel can provide door-to-door medical services. Daily care includes personal hygiene, nutrition, assisted activities, assistance with orientation, etc., and maintaining contact with activities of daily living or social maintenance; medical services include providing medications, changing dressings, and injections, and providing advice on care issues to those in need of care and their relatives, assisting in providing auxiliary services, etc. Respite care is when an informal caregiver is temporarily unable to provide care due to illness or other reasons, and a substitute can provide care for up to six weeks per year.

2.3. United Kingdom

In March 2009, the British Ministry of Health promulgated the “National Strategy for the Elderly with Dementia: Improving the Quality of Life for the Elderly with Dementia,” which proposed 17 goals and a five-year strategic plan, requiring fair and equal improvements in health service benefits for the elderly with dementia, and formulated high-quality service guidelines for elderly people with dementia. In June 2011, the British Ministry of Health proposed eight core guidelines for municipal services for health and social care staff, emphasizing early diagnosis, meaningful intervention, and cross-departmental cooperation. In March 2013, the British Ministry of Health promulgated “Making Changes for the Elderly with Dementia: Nursing Vision and Strategies,” proposing a care model for the elderly with dementia and six care standards for caregivers, and promulgated a revised version again in September 2016, collectively set up the roles and responsibilities of caregivers for the elderly with dementia and take the opportunity to improve the quality of care for the elderly with dementia.

With the support of a series of policies, the UK has established professional services for the elderly with dementia at the social level. Among them, the Alzheimer’s Association has set up a national dementia hotline and online community to share and disseminate care, online treatment, and other information and suggestions

for the elderly with dementia, and build a powerful information-sharing network for the elderly with dementia so that everyone can become a caregiver for the elderly with dementia. With the increase in the number of elderly people with dementia and the shortage of caregivers, a for-profit professional training company for the elderly with dementia has been established in the UK. The training targets include caregivers of the elderly with dementia, employees of enterprises, and other organizations. The training content includes basic knowledge training for the elderly with dementia and professional knowledge training for caregivers, focusing on the continuity of training. In 2013, the UK began to reform the primary care system for the elderly with dementia, proposing that primary care should go out of the hospital and return to the community, becoming more secure, personalized, and proactive, meeting the special needs of complex patients and improving their quality of life.

3. Current status of long-term care insurance implementation in China

As the elderly grow older, they will develop varying degrees of disability and dementia, and they also require daily care while undergoing treatment. Research shows that the disability rate of the country's elderly population is 2.34%, and the number of disabled elderly people has reached 6.18 million. It is expected that the number of disabled elderly people will reach 97.5 million in 2050 ^[7,8]. With the increasing number of disabled elderly people, the burden of traditional family care has become increasingly serious. With the growing demand for long-term care, long-term care costs have become a major burden on the families and even society of the disabled and demented elderly.

In 2016, the Ministry of Human Resources and Social Security issued the “Guiding Opinions on Carrying out the Pilot Program of Long-Term Care Insurance System” (Human Resources and Social Security Department [2016] No. 80), which provides guidance for the pilot program of long-term care insurance. It also stipulates basic principles, goals and tasks, basic policies, management services, etc., launches long-term care insurance system pilots in 15 cities including Qingdao and Shanghai, explores the establishment of a social insurance system that provides funds or service guarantees for basic daily care and medical care for long-term disabled people, and collaboratively promotes the construction and development of long-term care service systems. Due to the substantial increase in the number of elderly people with dementia, the issue of long-term care for the elderly with dementia has become an important social issue that needs to be solved urgently. Pilot cities such as Qingdao, Chengdu, and Nantong have successively included the elderly with severe dementia into the scope of long-term care insurance, and have made a series of regulations in terms of coverage, access conditions, service forms and contents, settlement methods, and standards, etc., to explore ways to solve the long-term care problems for the elderly.

With the rapid development of the country's long-term care service industry, a long-term care service system based on home, community-based, and institutional support has been initially established. The “2020 National Medical Security Development Statistical Report” released by the National Medical Insurance Administration in 2021 shows that the number of people insured by long-term care insurance is 108.353 million, and the number of people enjoying benefits is 835,000. In order to further promote the long-term care insurance pilot work and explore a long-term care insurance system framework that adapts to the country's national conditions, in September 2020, the National Medical Insurance Administration and the Ministry of Finance issued the “Guiding Opinions on Expanding the Pilot Program of the Long-term Care Insurance System,” which will be implemented in 15 pilot projects. On the basis of cities, 14 new pilot cities (the second batch of pilot cities) have been added. The active practice of each pilot city is to form a long-term care insurance system policy framework that adapts to the country's economic development level and aging development trend and to establish and

improve a long-term care insurance system that meets the diverse needs of the people. The multi-level long-term care security system provides favorable conditions. Since the country's long-term care insurance pilot program began in 2016, after more than five years of practical exploration, 49 cities have launched pilot programs.

4. The three-dimensional linkage care model of “community-institution-home” based on long-term care insurance

4.1. Comprehensive assessment of the elderly

A scientific needs assessment mechanism for the elderly is the key to accurately evaluating and estimating the care needs of people with dementia and providing them with targeted care services. At the beginning of the pilot period, most long-term care insurance pilot cities in the country directly used single-dimensional scales to identify and evaluate care recipients, such as daily living ability assessment and cognitive ability assessment. In 2021, the National Medical Insurance Administration and the Ministry of Civil Affairs released the “Evaluation Standards for Long-Term Care Disability Grades (Trial),” which basically established a comprehensive evaluation index system. The evaluation system includes three first-level indicators: daily living activity ability, cognitive ability, sensory perception, and communication ability. Among them, cognitive ability includes four secondary indicators such as time orientation, character orientation, spatial orientation, and memory. Cognitive ability is evaluated through these four secondary indicators, and the scores are added to obtain the total cognitive ability score and the corresponding care level.

4.2. “Community-institution-home” three-dimensional linkage care model

The service content and form of long-term care insurance are a “six-in-one” service system built around six dimensions: daily care, professional care, risk prevention, rehabilitation training, health management, and psychological care. Long-term care services for the elderly with dementia can be divided into community care, home care, and institutional care based on service types.

4.2.1. Community care

The implementation of the family doctor contracting system can provide precise services to contracted residents. The family doctor system provides personalized service packages at the grassroots level, creating conditions for providing a case management model for the elderly with AD. Judging from international experience, developed countries such as the United States are currently conducting extensive research on the AD case management model. Practice has shown that this model can significantly improve the cognitive dysfunction and quality of life of elderly people with AD and reduce the burden on caregivers^[9]. Case managers play a key role and are mainly responsible for team management and coordination of service resources, and undertake tasks such as nursing service quality assessment and case management effect evaluation, so that the elderly can receive high-quality, safe, and effective medical care services. The implementation process of case management provided by family doctors should include the inclusion of research objects, assessment, planning, implementation, coordination and supervision, evaluation, etc. The entire process emphasizes being patient-centered. In this series of processes, family doctors and nursing teams will become a key part of the community AD care system for the elderly, becoming the most important professional caregivers connecting patients or families with communities, governments, enterprises, and hospitals.

The family doctor team should take the initiative to improve the service model and provide various forms of services such as full service, door-to-door service, staggered service, and appointment service for the contracted elderly according to the agreement. By giving the family doctor team a certain proportion of hospital

expert numbers, appointment registration, and bed reservation, it is convenient for the elderly who have signed up to receive priority treatment and hospitalization. The general medical departments or designated departments of secondary hospitals and above should connect with family doctor referral services and establish green referral channels for elderly people who need referrals. For the elderly who have signed a contract, the dosage of a single dose can be extended as appropriate. For elderly people who have been transferred to the next level, prescriptions can be issued according to regulations according to their condition and medical orders from superior medical institutions. It is necessary to give full play to the guiding role of long-term care insurance payment, implement differentiated medical insurance payment policies, and adopt measures such as continuous calculation of the deductible for the transferred hospitalized elderly who meet the regulations to guide the elderly to seek medical treatment in the community.

The main services provided by community care include daily care, material support, psychological support, and overall care, providing daily care services for the elderly with various needs. The functions and nature of institutional care and community care agencies overlap, and community care services also include some services provided by home care agencies.

4.2.2. Home care

Home care services can be provided by family members, nannies, or home care agencies to provide daily care services to people who need care, or by medical staff in the community providing door-to-door medical services. Daily care includes personal hygiene, nutrition, auxiliary activities, etc. and maintaining contact with daily life activities or society; medical services include providing medication, dressing changes, injections, rehabilitation training, etc., and providing consultation and suggestions on nursing issues, assistance with ancillary services, etc. to those who need care and their relatives. The services that home care agencies can provide include door-to-door meal delivery, cooking, house cleaning, help with dressing, bathing, haircuts, etc. The elderly can purchase the services of a home care agency through long-term care insurance.

4.2.3. Institutional care

In addition to providing common daily care, institutional care can also provide more professional medical services, including:

- (1) Around-the-clock care: Common around-the-clock care institutions include nursing homes and institutions. When choosing institutional care, care institutions, families, and specialists need to sign a cooperation agreement and clarify the content of the cooperation agreement in order to provide medical services to the elderly.
- (2) Day/night care: The service content of day/night care is also daily care and medical services, and includes transportation services to and from home and institutions. This form of care is usually suitable for situations where the relatives of the person who needs care work during the day and are unable to provide care services. The person who needs care is usually sent in the morning and taken home in the afternoon.
- (3) Short-term care: The elderly are in serious condition at home or need a period of recovery after being hospitalized. They need to rely on professional care from institutions for a certain period of time. Short-term care institutions can provide services to them.
- (4) Hospice care: Hospice care has become an explicit part of social long-term care insurance contracts, regardless of whether hospice services, including palliative care and services, can be provided either at home or in an institution. Facilities are also required to enter into cooperative agreements with family

and specialist physicians to provide care to patients.

While setting up independent long-term care policy planning and establishing a long-term care service system for the elderly with AD, relatively independent policy documents and regulations should be formulated to strengthen the support of policies and regulations and improve the accuracy of long-term care services for the elderly with AD. For example, we can provide a series of support for home care, including care training, psychological counseling, and financial subsidies, vigorously develop community care, and provide a series of services including publicity, screening, referral, intervention, etc. for the elderly with AD. Independent professional long-term care institutions for the elderly with AD should also be established to gradually form a closely connected and continuous care pattern of home-community-institutional long-term care services.

5. Shortcomings and prospects

With the deepening aging of the country's population and the changes in social and family structures, the traditional family care model is unsustainable, and the elderly with AD have particularly urgent needs for institutional long-term care services. Currently, the care services provided by nursing institutions for the elderly with AD are still mainly focused on providing basic daily care services, and there is a lack of services for this special group due to their different special needs from those of the general disabled elderly.

At present, the country is short of professional talents for the long-term care of AD elderly people, and there is insufficient relevant professional training. Abundant and professional human resources are an important prerequisite for building a long-term care service system for the elderly with AD. In the process of improving the care system for the elderly with AD, whether it is a medical institution or a nursing institution, strengthening the training of professional talents is the core link to ensure the development of the institution. In order to meet the long-term care service needs of the significantly growing AD elderly population and potential AD elderly population, long-term care human resource planning should be vigorously strengthened, the quality of relevant department management positions and activity organization staff should be improved, and all sectors of society should be called upon to participate in related voluntary services. At the same time, the training of long-term care personnel will be incorporated into the national employment training system to further improve the professional assessment level of AD elderly people, the social organizations of long-term care, and the service capabilities and quality of the long-term care caregiver team, and actively respond to and meet the long-term care needs and service requirements of the country's AD elderly population.

At the same time, in the practice of long-term care for the elderly with AD, it is difficult to identify service recipients and the service standards are also vague, resulting in the elderly with dementia not receiving high-quality long-term care. The country should establish industry standards for long-term care for the elderly with dementia, including disability assessment standards and care service standards. The assessment of the elderly with AD requires a comprehensive assessment that combines the cognitive function, mental behavior, and other dementia symptoms of the elderly with AD with their daily living abilities. The elderly with different degrees of dementia should also have different requirements for the type and time of long-term care services. It is necessary to set up a professional assessment agency to rate AD patients and provide reasonable services corresponding to the level of disability to better meet the care needs of the elderly with AD. On the other hand, it is also necessary to establish different levels of long-term care standards, and at the same time, reasonably adjust the care plan based on the disease development of the elderly with AD, past care situations, economic income levels, etc., and provide them with personalized and differentiated services. At the same time, a health assessment and management system for basically healthy elderly people can be developed to dynamically

assess and monitor the health status of the elderly, proactively take preventive measures and early intervention for dementia, reduce the risk of dementia in the elderly, and delay the progression of mild dementia into severe dementia.

Disclosure statement

The authors declare no conflict of interest.

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