Published in final edited form as:
J Transcult Nurs. 2008 April ; 19(2): 114–120. doi:10.1177/1043659607312971.

Caring for Aging Chinese: Lessons Learned From the United States

HONGWEI WAN, MSN, RN,
Shanghai Jiao Tong University School of Nursing

FANG YU, PHD, CRNP, RN, and
University of Minnesota School of Nursing

ANN KOLANOWSKI, PHD, RN, FGSA, FAAN
Pennsylvania State University School of Nursing

Abstract

After two birth peaks and the "one child per family" policy, China is facing unprecedented challenges with regard to its aging population. This article analyzes the problems associated with three traditional ways of caring for older Chinese, the current health care system, and social supports available to older Chinese. The "4-2-1" family structure and the "empty nest" undermine family support, the prevalence of chronic illnesses and lack of money reduce older adults'selfcare abilities, and insufficient care facilities threaten social support. Lessons learned from the United States show that community-based nursing models, nursing curriculum reforms with a gerontology focus, and reformed health care systems are pivotal for addressing China's crisis.

Keywords

aging population; gerontological nursing; China; Chinese; community-based care; health care system

BACKGROUND

China is facing unprecedented challenges in population aging in the 21st century. Population aging is defined as the process whereby over a period of time, older individuals, usually 65 and older, make up a disproportional share of the total population. In comparison with the United States, population aging in China is characterized by a late onset with a rapid and long-lasting effect. The Fifth National Census in November 2000 showed that the number of people age 60 and older had already reached 126 million and constituted 10% of the total population in China. It is projected that the aging population will keep growing at a rate of 3% every 10 years until 2050, with the fastest growing period from 2010 to 2040. By 2050, the number of people 60 years old and older will reach 400 million, accounting for 25% of the total population (Z. Wang, 2004).

Similarly, in the United States, the number of people age 65 and older is expected to triple during the first half of the 21st century. The growth among the oldest old cohort is the most remarkable. The number of people age 80 and older grew at an average rate of 159% between 1960 and 1990 and will continue to increase at a rate of 70% between 1990 and 2020 (Lubben & Damron-Rodriguez, 2003). By 2030, the number of older Americans will reach 50 million, making up 20% of the total population. Other than historical events such as the baby boom from 1947 to 1964, reasons for the rapidly growing older population in the United States include declines in fertility, longer life expectancy, and improved living conditions (Kingma, 1999).

Improvements in health care and technology also lead to decreased birth rates and death rates (Keister & Blixen, 1998).

Unlike the United States, two main reasons for Chinese population aging are two birth peaks and the implementation of the "one child per family" policy. China experienced two birth peaks in the second half of the last century. The first peak occurred during 1949 after the Communist Party seized power. The second peak was after the "Great Famine" from 1959 to 1961. Two major factors leading to those birth peaks were lack of balance between the development of a planned economic system and uncontrolled birth rates. Furthermore, the "one child per family" policy was introduced at the end of the1970s and legislated into a national policy at the Fifth National Congress in September 1980. The policy advocated that every couple give birth to only one child to control the population increase as quickly as possible. The only persons exempt from this policy were minorities, who account for 9.44% of the total population (Jiang, 2006). In the ensuing 20 years, this policy reduced about 300 million births, decreasing the proportion of the Chinese population to the world population by 5% from 25% to 20%. Despite its effectiveness in controlling population growth, the "one child per family" policy significantly altered the course of population aging in China and poses a series of challenges for caring for older Chinese, including the strains on the social security system, medical insurance, nursing care, caring institutions, and nursing education.

The purpose of this article is to examine the problems associated with traditional ways of caring for older adults in China, to analyze Chinese current health care system and social supports available to older adults, and to suggest ways for the Chinese nursing profession to deal with their challenges based on lessons learned from the United States. Forty-five relevant articles published between 1980 and 2007 were found from a literature search combining the terms *China* and the *United States* with the following keywords: *aging*, *aging population*, *gerontological nursing*, *gerontology*, *community-based care*, and *health care policy*.

Problems Associated With Traditional Ways of Caring for Older Adults in China

There are three core features of successful aging in China: financial support, assistance with activities of daily living (ADLs), and psychological well-being (Du, Ding, Li, & Gui, 2004). Financial support is basic and necessary for older adults' successful aging because it supports both costs of living and health care expenses, assistance with ADLs refers to the availability of formal and informal assistance in performing essential daily activities, and psychological well-being is defined as the lack of mental diseases and emotional distresses. All three features directly affect the quality of life in older adults (Kang, 2004). To facilitate the achievement of successful aging, three traditional ways of caring for older adults exist in the Chinese society: family support, self-care, and the social support system (Mu, 2002). The cultural elements that underlie each traditional way of caring are discussed first, followed by a discussion of issues embedded in the current social and health care environment in China.

Family Support

Cultural elements—Support for older adults is considered to be the first and foremost responsibility of the immediate family in China. Family members are the main source of physical, emotional, social, psychological, and financial support for older Chinese. Adult children are often involved in direct care-giving activities for their older parents. The legal responsibility of adult children to provide support for their older parents has been a Chinese tradition for thousands of years. Because parents raise children, it is the children's responsibility to show their filial piety when their parents become elderly. When the People's Republic of China was established in 1949, this tradition was written into the Constitution (Shang, 2002).

Issues—Family support for caring for older Chinese is being challenged because of social and cultural changes that occurred in the past 20 years, such as the "4-2-1" family structure and the "empty nest." The 4-2-1 family structure refers to the pyramid of four grandparents, two parents, and one single child in a family as a result of the "one child per family" policy. It is extremely difficult for an adult couple to provide support for their combined four aging parents and/or grandparents while taking care of their own child and maintaining successful careers in an increasingly fast-paced Chinese society (An & Dong, 2002).

The modernization of China has created enormous opportunities for young adults determined to improve their living standards. Many young adults have left their parents to pursue freedom and economic prosperity, which leads to the increasing prevalence of "empty nests," where older adults live alone. About 60% of older adults' households in cities are empty nests, and some of these older adults live below the poverty line (Song, 2001). Older adults living alone, particularly those residing in the countryside, are the most vulnerable population (Mu, 1998). Empty nests threaten the viability of the traditional way of caring for older Chinese. As a result, the traditional pattern of family support as a way of caring for the older Chinese is weakening and will not meet the needs of the booming older population in the upcoming decades.

Self-Care

Cultural elements—In the past, self-care has not been perceived as a main method of caring for older Chinese. Adult children have traditionally been expected to provide care for their parents. In fact, one of the driving forces for having children is to ensure that there will be someone to depend on in old age. This kind of thinking is especially emphasized in the countryside. Today, older Chinese have to increasingly rely on themselves. Many older adults have been forced to accept this harsh reality because of the 4-2-1 family structure and the growing rate of empty nests.

Issues—Changes in family structure and increases in empty nests have forced older Chinese to learn how to care for themselves; however, their self-care abilities are challenged by the high prevalence of chronic illness and a lack of financial resources. A general health survey showed that the percentage of older adults with chronic illness was as high as 74.5%, with cognitive impairments being the most prevalent problem (Liu & Pan, 1998). Data from a national population survey in 1994 showed that 5.85% of older Chinese (those 60 and older) in Beijing could not take care of themselves, and the rate of dependency in ADLs increased from 13% for those who were 70 to 80 years old to 32% for those who were 80 and older (Mu, 2002). In Shanghai, there are currently 260,000 people needing assistance with ADLs. Prolonged immobility caused by chronic illnesses seems to be the main reason for the prevalence of dependency in older Chinese adults.

The retirement system further undermines the self-care ability of older adults in China. In the United States, social security is the primary source of income for many older adults (Keister & Blixen, 1998). Considerable numbers of older adults also benefit from earnings, property income, and occupational pensions (Rmn, 2005). In contrast, China's retirement system is based on policies from the 1950s. The retirement age is 60 years old for men and 55 years old for women who are in governmental, professional, and some commercial positions and 50 years old for women working in manual labor. The early retirement age and long life expectancy drain the financial resources of older Chinese because retirement income can seldom keep pace with the rate of inflation in living and medical costs. Retirement income for persons with ample employment history comes from three sources: basic social contribution from the government, employer's contribution, and individual contributions. Some older adults will not receive enough in pensions for their living expenses, and the rural population, which accounts for 57.01% of total population, has no retirement income (Jiang, 2006). Additionally,

with the reform of the medical system, the cost of medical care has increased exponentially. Older individuals are disproportionately affected by chronic illnesses that challenge them to live with and respond to disabilities. This, in turn, places increased demands on an already weak social support system (Lu & Xie, 2005).

Chinese Current Health Care System and Social Supports Available for Older Adults

In China, social supports, such as government-sponsored health care facilities, are only available to the privileged few who reside in cities where pensions and health insurance are available. Those who live in urban areas have the advantage of higher income and living standards. Although the majority of the older Chinese population lives in rural areas, there is very little social support available to them. Expanding the government-sponsored support systems in both urban and rural areas is clearly needed and in demand (Zimmer & Kwong, 2004).

The health care system in China has evolved through two major phases: the early phase of universal access and the current phase of unequal access. The first phase, also known as socialized medicine, spanned the period of 1949 to 1980, when the Chinese government supported and implemented a policy to allow all of its citizens universal access to health care. Despite the ideological ideal, only employed citizens benefited from the policy. The second phase, the urban and town health care insurance system, is open to all employed individuals and is a system of individual health care accounts. There are two sources of payment into this account: one from the employer (about 70% to 80% of medical coverage) and the other from individuals (about 20% to 30% of medical coverage). However, there are differences between geographic districts. People living in cities, particularly in the coastal areas and large inland cities, benefit more than those in remote areas. What has been called health care reform is actually producing health care disparity by diminishing coverage for urban residents who become unemployed, the self-employed, the less educated, and the elderly (Zhan, 2005). Those people had easier access to health care during the first phase of the health care system than they now experience.

Additionally, health care reform is widening the gap of health care access between the cities and rural areas (Howard, 2006). In the vast countryside, little growth in access to medical care has been seen following the collapse of socialized medicine. During the past several years, the Chinese government has experimented with reforms aimed at improving health care for rural-dwelling people. For example, an insurance plan calls for local government support at an annual rate of 30 Chinese yuan per person per year and requires participating peasants to pay 20 Chinese yuan per person per year to be eligible for basic medical treatments. The Chinese government, under Chairman Jintao Hu, has made the improvement of rural living standards a top priority and has recently announced an expansion of health care reform in rural areas with increased coverage (Howard, 2006).

Medical treatment and health care facilities are insufficient in China despite the recent surging economy. Medical services for older Chinese have lagged behind the United States (Fang & Chen, 2004). For instance, in Shanghai, there are 400 government-sponsored or privately administrated facilities that provide different types of services for older adults: nursing homes, hospitals, apartments for older adults, adult day care, and hospice care. The total number of beds available is less than 30,000, which can meet the needs of only 10% of frail elders who need these services (Wei, Zakus, Liang, & Sun, 2005). At the same time, privately funded services such as nursing homes have grown rapidly since the mid-1990s. These private long-term care facilities compensate for the shortage of social supports for older Chinese but only provide service to the wealthiest people because of the high enrollment costs. Increasing the number of these kinds of facilities might not be the best solution to meet the needs of older adults because many older adults still choose to age in place. Consequently, creative and diverse

ways of providing health care services are needed to meet the needs of older Chinese (Zhan, 2005).

SUGGESTED WAYS FOR THE CHINESE NURSING PROFESSION TO DEAL WITH THE AGING CHALLENGES BASED ON LESSONS LEARNED FROM THE UNITED STATES

With less available family care and insufficient social support, nursing is in a pivotal position to help China prepare for the care older adults will need. The three features of successful aging in the Chinese culture fall largely into the scope and practice of the nursing profession, particularly assistance with ADLs and psychological well-being. Many nursing interventions are relatively inexpensive compared to medical interventions. Inspired by the development of gerontological nursing in the United States, two essential changes in nursing care delivery and education may improve the care of older Chinese: community-based nursing models and nursing curriculum reform with a gerontology focus. Additionally, some aspects of the health care system in the United States may be appropriately applied in the Chinese culture.

Community-Based Nursing Models

Community-based nursing models refer to the delivery of nursing services to people in their own homes and in the community where they reside (X. H. Li, 2005). In the United States, nurses are leaders in developing and implementing those innovative practices that help older adults remain at home for as long as possible (Schoenfeelder, Maas, & Specht, 2005). Community-based nursing models seem to be a very promising solution for meeting the needs of older Chinese for several reasons. First, these models strengthen the traditional ways of caring for older adults by capitalizing on family support, they improve the self-care abilities of older adults, and they allow for easy mobilization of social support networks. Second, the living arrangements and current economic conditions in China make these models feasible and financially viable. In urban areas, older adults often own their residence, which is typically housed in large apartment complexes in closely knit communities, ensuring easy access by health care providers. Third, the availability of different levels of hospitals in both urban (province, city, and district levels) and rural (county, town, and countryside levels) areas provides an extensive network of support for nurses who provide community-based care. Because community nursing in China is still in its infancy, the advantages and disadvantages of different U.S. community-based models can be assessed, their pitfalls avoided, adapted, or modified to suit China's unique cultural, social, and economic situation. After reviewing various American community-based nursing models, four models appear promising, viable, and suitable to Chinese culture. These models will support and strengthen the three traditional ways of caring for older Chinese: home care, nursing home care, Continuous Care Retirement Communities (CCRCs), and rural nursing. An overview of each model is provided, followed by a discussion of its feasibility in China.

Home Care

The U.S. model—In the United States, about 90% to 95% of older adults live in their own homes and receive extensive nursing care to help them continue to age in place. Covered services include comprehensive home health care and ambulatory health services, which may or may not include transportation and prescription drugs. An interdisciplinary team of professionals (e.g., nurses, social workers, rehabilitation therapists, and patient surrogates) arrange for and provide services to older adults (Mezey, Boltz, Esterson, & Mitty, 2005). Living at home not only helps older adults maintain their identity but also allows them to reside in a familiar environment that helps them retain living skills (Rmn, 2005).

Feasibility in China—Home care is advantageous in China and seems compatible with the Chinese culture. As previously mentioned, most older adults own their residence and have established lifelong relationships with people in the same community. Home care services will help them remain in a familiar environment. The typical living arrangements in high-rises will also allow an efficient use of nurses' time and the coordination of care. The disadvantage of home care is that a partnership with physicians will be needed to initiate this program in China, and there are little data about physicians' acceptance of home care (Xian & Li, 2006).

Nursing Homes

The U.S. model—In the United States, about 5% of frail or ill older adults live in a long-term care facility, commonly known as nursing homes. Only 7% of older adults enter a nursing home from the community in any 2-year period (Moore, 2005). Nursing homes are staffed with registered nurses (RNs), licensed practical nurses, and certified nursing aids who provide continuous skilled nursing care. In the coming decades, the percentage of older adults who will reside in nursing homes is anticipated to drop in the United States, but the total number of older adults who require nursing home beds will increase because of the increased number of older adults (Evashwick & Cohn, 1999). Although nursing homes have existed for decades and are highly regulated in the United States, there is an increasing recognition that the traditional nursing home model has many drawbacks. Innovative practice models such as green houses are being tested for their efficacy to create a home-like environment and improve residents' quality of life (Rabig, Thomas, Kane, Cutler, & McAlilly, 2006).

Feasibility in China—In China, unmet health care needs are also the main reason for nursing home placement, especially for those who are 80 and older with multiple chronic illnesses and no family to care for them. The advantage of nursing homes in China is the availability of 24-hr skilled and nonskilled nursing care for older Chinese who have limited social support. However, nursing home services are limited by two major factors: the lack of enough beds to meet the needs of older Chinese and insufficient funds to cover nursing home costs. According to the current regulations of China's Department of Economy, the cost of nursing homes is classified into three levels: 750 Chinese yuan monthly for those who are able to take care of themselves, 850 Chinese yuan monthly for those who are partly dependent, and 950 to 1,100 Chinese yuan monthly for those who are totally dependent. Generally speaking, older adults' pensions averaged 750 Chinese yuan a month for those who retired in the 1970s and 1980s and about 1,500 Chinese yuan monthly for those who retired later. Thus, nursing home costs account for 100% to 146% of the pension for those older than 80 and 50% to 75% of the pension for those younger than 80. Therefore, the nursing home model only fits the needs of middle- and upper-class older Chinese. Those with limited income might not be able to afford nursing homes unless they receive financial support from their children or relatives or a governmental supplement.

CCRCs

The U.S. model—CCRCs typically include three levels: independent living, assisted living, and nursing home. This model helps older adults to age in place, maintain functional independence and well-being, and move up or down the ladder of care as their needs change (Flesner, 2004). Other than housing, medical, and nursing care, CCRCs also provide a range of service options, including recreational activities, in a single location (Bertsch, 2005; Reicherter & Billek-Sawhney, 2003).

Feasibility in China—The advantage of this model is that it allows residents to decide the timing and intensity of health and personal care services. CCRCs are culturally acceptable in China because older people normally live close to others and enjoy community activities rather than being alone. However, like that in the United States, the CCRC model can be inaccessible

to those with limited income. CCRCs are currently being piloted and established in major cities such as Shanghai and Beijing, where people are more likely to have the financial means to pay.

Rural Nursing

The U.S. model—In the United States, older adults residing in rural areas are still an underserved population with limited access to health care, despite decades of efforts to reduce health care disparity. Home care remains the main model of service to the rural population (Caffrey, 2005). In some rural areas, foster care homes are being developed as a less expensive alternative to nursing homes. Foster care homes provide a more home-like atmosphere for those who require intense supervision by nurses (Harrington, 2005).

Feasibility in China—"Bare-foot doctors," health care providers with limited medical education who inherit a family medical business, are still at the core of providing health care in rural areas. Because of the lack of safety nets for medical care in rural areas, bare-foot doctors provide easy access to health care for those with multiple chronic diseases (Howard, 2006). Foster care homes are particularly advantageous in rural China. One innovative emerging model of care is the collaborate families model, in which older adults live with nonrelatives in a family-like setting and take care of each other (An, 2004). The disadvantage is that the care provided is mainly custodial and people have to go to a county- or city-level hospital to access primary and advanced health care. With the recent governmental policy of mobilizing doctors and nurses from urban hospitals to rural areas for provision of services, foster care homes may become a feasible model of care delivery for rural older adults (Q. F. Wang, 2006).

In summary, community-based models are mainly operated and controlled by nurses. In these models, nurses educate older adults as well as their caregivers and offer timely information and support in health care decisions. Nurses will also need to collaborate with other health care providers to improve the quality of care delivered using these models (Caffrey, 2005).

Nurse Competency in Providing Gerontological Nursing Care

Education standards for nurses have been recognized as an important factor for improving patient outcomes (Harrington, 2005). Therefore, educating future generations of nurses and increasing the current nursing workforce for older adults is important in China. Nursing educators play pivotal roles in meeting the needs of aging Chinese. Implementing curriculum reform, expanding the scope of nursing practice, and including gerontological content in the RN licensure exam would improve nurses' gerontological nursing competence in China.

The U.S. nursing—In the United States, faculty, students, and communities are engaged in many activities that generate excitement and employment opportunities for geriatric nursing (Jeffers & Campbell, 2005). From educational and certification aspects, gerontological nursing content is integrated in the baccalaureate curricula and RN certification exam. Since fall 1993, nurses have been able to become certified in geron-tological nursing. Requirements for the exam include current licensure as an RN and 2 years of working experience with the older population (Harrington, 2005). Master's-prepared nurses are certified as Geriatric Clinical Nurse Specialist or Gerontological Nurse Practitioners. They work in a variety of settings with roles as direct care provider, administrator, educator, consultant, and researcher. Doctoral and postdoctoral gerontological nursing programs prepare nurses to become qualified researchers who have significantly changed the practice of gerontological nursing in the United States and influenced every perspective of older adult care (Mezey & Fulmer, 2002).

Chinese nursing—There are 1.3 million RNs in China. Nurses constitute 1.0% of the total Chinese population of 1.3 billion (Yang, 2006). Among Chinese RNs, 64.5% have a diploma, 24.3% have an associate's degree, 1.6% have a bachelor's degree, and very few have a master's

degree (Wu & Cao, 2005). The first doctoral program was established in the Second Military Medical University in Shanghai in 2005. There are no doctorally prepared nurses in China at present. Despite many educational reforms in the past, Chinese nursing continues to focus on technical skills. With the rapid development of bachelor and master's programs in nursing, the composition of RNs will begin to change in the coming decades. The nursing curriculum overemphasizes medical knowledge, while human sciences and management compose only 5% of the curricular content. Gerontological nursing content is only 2% of the curriculum (C. S. Li, 2000). This imbalance has been recognized by the Chinese Department of Health that regulates nursing in China, and the department is actively supporting curriculum reforms. Several universities are seeking ways to improve the curriculum by including content on community and geronto-logical nursing. As yet, there is no specialty certification for gerontological nursing. Therefore, adding gerontological nursing content and advocating for gerontological specialty certification would help Chinese nursing to quickly develop its gerontological nursing capacity.

Health Care System

National legislation and insurance plans from the central government might help to curb the cost of health care and help China meet the health care needs of its growing older population. This section focuses on how the health care system in China may be improved through insights gained from the United States.

The U.S. health care system—In 1965, Medicare was established by the federal government for assisting older adults to pay for health care services and is currently one of the largest federal programs, composing about one tenth of the federal budget (Lee & Miller, 2002). Medicaid is a state program that sponsors residents with limited income and assets to pay for health care. Community health centers get 39% of their funds through Medicare or Medicaid (Milio, 2000). In 1987, the Act was amended to allow more coverage for nonmedical home care services for frail older people such as home health aides (Keister & Blixen, 1998).

Chinese health care system—At present, the government's role in supporting older adults is very limited. After the liberation of China in 1949, most rural areas were administrated by communes where peasants worked together on farms and received equal payments and services. In the past two decades, the communes have been slowly dismantled in favor of privatization and fees for services, resulting in less accessibility to health care. Currently, there is no good plan for health care in rural areas (Zhao, 2000). Because developing financial security for older adults is one of the major goals of the current Chinese government, demonstration projects for promising service models may be funded in the near future.

CONCLUSIONS AND RECOMMENDATIONS

The growing older population in China is creating opportunities for nursing to take a leadership role in shaping health care. To facilitate successful aging, nurses should take initiatives in developing community-based models. We recommend three strategies. First, recruit retired nurses to assume service responsibilities. Chinese nurses are mandated to retire at age 50 or 55, when their productivity is still high. They often have ample clinical experiences, are competent, and are free from child-rearing responsibilities. Thus, using retired nurses in community-based models may be a solution to care for older adults. Effective practice models will attract more nurses to work in community settings. Second, partner with investors to establish community-based models in which nurses could comanage and provide high-quality affordable care for older Chinese. Third, create national and provincial gerontological nursing interest groups comprising experienced nurses, educators, and researchers to identify and suggest viable solutions for caring for the growing older population. The groups could also

conduct studies and provide basic data for policy makers as well as provide suggestions and training for nurses.

To facilitate curriculum reform that will improve quality of life for older adults, the following should be considered: First, develop a stand-alone gerontological course in baccalaureate programs. The didactic content of the course should cover a wide range of topics, such as signs and symptoms management, health promotion, rehabilitation, acute/chronic care, community-based services, and palliative care. The practical content should allow students to gain hands-on experiences in a clinical setting.

Last, efficient government-run health care support system is necessary and crucial to the health of older Chinese. For example, health care should be tiered by allowing the poor to receive governmental subsidy for paying health care cost.

To conclude, the aging Chinese population will pose great challenges on the health care system in the coming decades. The nursing profession should take on the leadership and initiative to prepare RNs with adequate knowledge and skills in gerotontological and community-based nursing. Nurses, nursing researchers, and educators should work collaboratively to advocate and pilot test the cultural feasibility of various community-based models discussed.

Acknowledgments

Hongwei Wan was supported by China Scholarship Council and the Penn State University School of Nursing. Fang Yu was partly supported by the John A. Hartford “Building Academic Geriatric Nursing Capacity” Postdoctoral Fellowship. Ann Kolanowski was supported by a grant from the National Institute of Nursing Research (R01 NR008910).

References

An ZL. Exploring the nursing models caring for older adults in rural areas. Journal of Agricultural Cultivation Economy 2004;1:37–39.

An ZL, Dong YJ. Discussions on choices of patterns of providing for the aged in rural area in China. Northwest Agriculture and Forest Technology University Transaction 2002;2:64–69.

Bertsch DK. A nurse goes shopping for a continuing care retirement community. Geriatric Nursing 2005;26:241–244. [PubMed: 16109297]

Caffrey RA. The rural community care gerontologic nurse entrepreneur: Role development strategies. Journal of Gerontological Nursing 2005;31(10):11–17. [PubMed: 16262086]

Du P, Ding SH, Li QP, Gui JP. The influence of children thrown in labour force outside the countryside to their older parents stayed in the countryside. Population Research 2004;11:44–52.

Evashwick CJ, Cohn J. Enhancing managed care’s role in long term care: Building on the aging network. Managed Care Quarterly 1999;7(1):39–45. [PubMed: 10350795]

Fang JB, Chen H. The challenge of population aging on nursing. International Journal of Chinese Nursing 2004;3(2):147–149.

Flesner MK. Care of the elderly as a global nursing issue. Nursing Administration Quarterly 2004;28(1): 67–73. [PubMed: 14986512]

Harrington C. Nurse staffing in nursing homes in the United States: Part I. Journal of Gerontological Nursing 2005;31(2):18–24. [PubMed: 15756982]

Howard W. Wealth grows, but health care withers in China—rural areas lag with fall of socialized medicine. The New York Times 2006 January 14;:A1, A7.

Jeffers BR, Campbell SL. Preparing to care for older adults: Engaging college constituents. Journal of Nursing Education 2005;44(6):280–283. [PubMed: 16021806]

Jiang XL. Statistic Bureau of China publicizes population sample survey’s results. People’s Daily Overseas Edition. 2006 March 17;Version 1

Kang SX. Analysis and countermeasure research of aging problems for stayed older adults in the countryside. Gan Su Agriculture 2004;7(240):111–112.

Keister KJ, Blixen CE. Quality of life and aging. Journal of Gerontological Nursing 1998;24(5):22–29. [PubMed: 9735728]

Kingma M. ICN on healthy aging: A public health and nursing challenge. International Nursing Review 1999;46(2):60–61. [PubMed: 10342128]

Lee R, Miller T. An approach to forecasting health expenditures, with application to the US Medicare system. Health Services Research 2002;37(5):1365–1386. [PubMed: 12479501]

Li CS. The need and services for community nursing. Modern Rehabilitation 2000;4(1):149–150.

Li XH. Community care model and the choice of caring for older adults. Theory Journal 2005;10(140): 102–103.

Liu JF, Pan MZ. How nursing serves the aged. Journal of Practical Nursing 1998;14(10):513.

Lu SP, Xie YJ. Population aging and community nursing in China. Journal of Aging of China 2005;18 (5):26.

Lubben JE, Damron-Rodriguez J. An international approach to health care in community for older adults. Family and Community Health 2003;26(4):338–349. [PubMed: 14528139]

Mezey M, Boltz M, Esterson J, Mitty E. Evolving models of geriatric nursing care. Geriatric Nursing 2005;26(1):11–15. [PubMed: 15716809]

Mezey M, Fulmer T. The future history of gerontological nursing. Journals of Gerontology Series A-Biological Sciences & Medical Sciences 2002;57(7):438–441.

Milio N. The impact of recent changes in public health insurance on community-based health care in the USA. Nursing Inquiry 2000;7(4):266–273.

Moore C. As we age who will care for us? Kansas Nurse 2005;8(7):12–15. [PubMed: 16173403]

Mu GZ. Aging project “3+2”: The special integrative Chinese aging way. Newspaper Economy Daily. 1998 September 14;Version 1

Mu GZ. The problem of providing for the aged in cities in China: The case of Beijing. People’s University Transaction 2002;2:64–69.

Rabig J, Thomas W, Kane RA, Cutler LJ, McAlilly S. Radical redesign of nursing homes: Applying the green house concept in Tupelo, Mississippi. The Gerontologist 2006;46(4):533–539. [PubMed: 16921007]

Reicherter EA, Billek-Sawhney B. Use of the social system theory for the analysis of community reintegration of older adults. Topics in Geriatric Rehabilitation 2003;19(4):298.

Rmn JC. Adverse factors and the mental health of older people: Implications for social and professional practice. Journal of Psychiatric and Mental Health Nursing 2005;12:290–296. [PubMed: 15876235]

Schoenfeelder DP, Maas ML, Specht JK. Innovation in long-term care HomeSafe: Supportive assistance for elderly individuals through a nurse-managed plan. Journal of Gerontological Nursing 2005;31 (4):5–11.

Shang G. Problems and methods of families’ support providing for older adults in rural areas in Beijing. Beijing Society Science 2002;3:24–28.

Song J. Study review of the provision for rural aging. Population Study 2001;11:64–69.

Wang QF. 85 free medical sites are established in communities of Sahekou District in Dalian. China and Foreign Medical Journal 2006;4(3):130.

Wang Z. Problems of providing for older adults and its countermeasure study. Journal of Economy 2004;7:46–47.

Wei X, Zakus D, Liang H, Sun X. The Shanghai case: A qualitative evaluation of community health reform in response to the challenge of aging population. International Journal of Health Planning & Management 2005;20(3):269–286. [PubMed: 16138739]

Wu BW, Cao WX. Analysis on challenges faced nursing education in China from the status difference between China and the US. Chinese Nursing Research 2005;20(5):1202–1204.

Xian YN, Li GZ. Analysis of the outcome of home care services for 100 cases. Chinese Journal of Clinical Research 2006;12(3):330–331.

Yang YH. Status and introspection of nursing education. Shanghai Nursing Journal 2006;6(4):1–2.

Zhan HJ. Aging, health care, and elder care: Perpetuation of gender inequalities in China. Health Care for Women International 2005;26(8):693–712. [PubMed: 16234212]

Zhao WL. Population aging and development of community nursing. Journal of Chinese 2000;35(4): 235–236.

Zimmer Z, Kwong J. Socioeconomic status and health among older adults in urban China. Journal of Aging and Health 2004;16(1):44–70. [PubMed: 14979310]