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Jaden Gloden  
*Portland State University*

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International Comparison of Literature on Home Health: Taiwan and the United States

by

Jaden Gloden

An undergraduate honors thesis submitted in partial fulfillment of the

requirements for the degree of

Bachelor of Science

in

University Honors

and

Public Health Studies

Thesis Advisor

Dr. Richard Dozal-Lockwood

Portland State University

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**Research Question:** *How do the long-term care systems of Taiwan and the United States compare regarding home-based medical care for senior citizens?*

## **Introduction**

Beginning in the late 1980s, Taiwan's Democratic Progressive Party established a commission charged with reforming healthcare for the 23 million people of Taiwan.

Businessmen, academics, and policymakers looked to other industrialized countries in search of the most effective systems and policies and how they could be implemented in Taiwan (Reid, 2010). The result of these lessons and discussions was the 1994 National Health Insurance Law, offering universal coverage for the Taiwanese people when implemented in 1995.

Taiwan is one of the world's fastest-aging societies. In 2020, the proportion of the population 65 and older was 16.1% and is estimated to reach 20% by 2025 (Taiwan Ministry of Health and Welfare, 2021). The United States population has the same proportion of older adults (16% in 2019) and follows a similar aging demographic trend at a slower pace. This proportion is expected to grow to 21.6%, over a fifth of the population, by 2040 (Administration for Community Living, 2021).

Caring for an aging society has been at the forefront of Taiwanese policymakers' minds since the 1994 implementation of the universal National Health Insurance program. The Ministry of Health and Welfare implemented its Long-Term Care 10-year plan (LTC 2.0) in January 2017 "promoting community overall care service system and responding to the long-term care needs arising from the aged society" (Taiwan Ministry of Health and Welfare, 2021). LTC 2.0 has increased the number of people cared for, extended the previous LTC 1.0 plan to include services

preventing and delaying the onset of age-related chronic conditions, and integrated more home-based medical care to meet the growing demand for ‘aging in place’.

Taiwan’s national health expenditure rose to around 6.5% of its GDP in 2019 (Taiwan Ministry of Health and Welfare, 2021). Meanwhile, the United States’ health expenditures have continued to climb to 17.7% of the national GDP, nearly tripling Taiwan’s share for the same year (Rama, n.d.). While both countries follow market-based economies, they have different economic approaches to providing healthcare for their citizens.

Most older Americans have at least one chronic condition and many have multiple conditions, which can have immense effects on an individual’s ability to perform activities of daily living (ADLs): “In 2019, 19% of adults age 65 and older reported they could not function at all or had a lot of difficulty with at least one of six functioning domains” (Administration for Community Living, 2021). These functional domains included seeing, hearing, mobility, communication, cognition, and self-care. Similar figures are seen in Taiwan regarding chronic disease and disability. According to the 2013 National Health Interview Survey, over 80% of Taiwanese senior citizens reported having been diagnosed with at least one chronic disease (Health Promotion Administration, 2017). While statistics about ADLs are limited and it is unclear if Taiwan and the United States follow the same definition of ADLs, increasing rates of disability within the Taiwanese population are attributed to both its rapidly aging population and the fact that older adults face a higher risk of disability. From 2010 to 2020, the number of disabled people aged 65 and older rose by 35.2% (Taiwan Ministry of Health and Welfare, 2021).

The loss of ability to perform ADLs requires regular help from a caregiver or health provider, often in the form of home-based long-term care. A 2021 AARP survey found that 77% of U.S. adults aged 50 and older wish to remain in their own homes for the long term; this figure has remained consistent over the years (Davis, 2022). Because of this desire to ‘age in place’, home-based medical care has been identified as an ideal form of long-term care for those struggling with performing all the activities of daily living independently. Taiwan society also values aging in place but for different reasons. Confucian values and a traditional focus on filial piety “encourage strong family ties and support”; as a result, the majority of people 65 and older live at home. Additionally, over half of these older adults live with adult children or other family members and nearly 40% live in a three- or four- generational household (*Taiwan*, 2018).

When Taiwan’s political leaders recognized the modern democracy’s obligation to provide healthcare for its people, Taiwan changed its health system in the face of commercial and powerful interests (Reid, 2010). Taiwan represents a thoughtful approach to designing health systems through international comparison and examination. While Taiwan’s healthcare and long-term care systems are relatively successful, with the satisfaction rate for LTC 2.0 reaching 92% in 2020 (Taiwan Ministry of Health and Welfare, 2021), there is a lack of research into this system and international comparisons. Both Taiwan and the United States rank within the top 25 wealthiest nations in the world by GDP, uphold democratic values and governments, and share a key partnership in trading (U.S. Department of State, 2022). Yet, the United States has failed to make meaningful progress toward healthcare reform and struggled to contain rising healthcare costs. These rising costs burden families, can result in the delay or foregoing of medical care, and present an opportunity cost with implications for the larger U.S. economy. The United States can learn from both the Taiwanese model and approach.

## Long-Term Care in Taiwan

Since its expansion in 2017, LTC 2.0 covers nearly 20 services including dementia care, aboriginal-integrated services, and multiple-function centers: “The main care model in Taiwan includes four choices: institutional care (11%), family migrant care workers (26%), care responsibility provided only by family members (40%) or using LTC 2.0 services (23%)” (Chen & Fu, 2020). Enrollment in long-term care coverage for Taiwanese citizens is mandatory beginning at birth (Cheng, 2020). Three sources finance Taiwan’s long-term care system: government, employers, and out-of-pocket payments made by service users (Cheng, 2020).

The delivery of services for LTC 2.0 employs a community-integrated care system with three layers, referred to as the ABC network. Level ‘A’ represents community-based service centers that prepare and approve care plans. Connected to the ‘A’ level, ‘B’ level agencies “are responsible for delivering long-term care services” and the ‘C’ level neighborhood long-term care stations provide older adults with services related to prevention and delay of disability (Cheng, 2020). Those requiring long-term care visit a long-term care management center, run as a department within local government, in which a care manager assesses care needs, derives a plan, collaborates with the fore-mentioned ABC network, the individuals, and their families, and then implements the plan. Government care managers are also responsible for approving disability levels and related benefit amounts, referred to as the case’s upper limit. LTC users and their families choose from a list of professional and personal care services; however, they are responsible for any service charges that exceed this upper limit (Chen & Fu, 2020). Long-term care costs are 100% government subsidized for low-income individuals (Cheng, 2020).

## **Long-Term Care in the United States**

The United States is particularly unprepared for the phenomenon of population aging, and the recent COVID-19 pandemic has exposed chronic problems within the American long-term care system (Butler, 2022). In 2021, the average annual cost of a shared nursing home room exceeded \$90,000 (*Cost of Care report*, n.d.). These fees are not covered by Medicare and quickly deplete the savings of many middle-class Americans and their families (Butler, 2022). Medicare, the federal program that provides health insurance coverage for 60 million people--the majority of whom are aged 65 and older--only covers short-stay post-acute care (Butler, 2022). While Medicaid does cover the cost of care for eligible low-income individuals “including those who spent down their assets on nursing home care”, eligibility for Medicaid home-based care services varies from state to state (Butler, 2022). Additionally, problems with staffing, within both institutional and home care service sectors, such as poor pay, high turnover, staffing shortages, and lack of consistency among required training have effects on patient care quality. The median hourly pay for direct care workers in 2020 was less than \$14 (*Direct Care Workers in the United States*, 2021), and nearly 50% of direct care workers qualify for and rely on public assistance, like Medicaid (Butler, 2022).

## **Home Health**

Medicare, Social Security, and to an extent Medicaid programs were created in part to protect older adults from elder poverty. The deinstitutionalization movement of the 1970s of those with mental illness and the replacement of psychiatric institutions with alternatives within the community has many parallels and implications for long-term care and home health (Koyanagi & Bazelon, 2007). Outrage about widely publicized scandals in the nursing home

industry during the 1970s became the backdrop for those supporting home care. As a result, home care was posited as an alternative to both hospitalization and nursing homes (Benjamin, 1993). Since the 1980s, rates of institutionalization among older adults have dropped in the majority of OECD member nations, and many of these nations have prioritized encouraging home and community-based care options (Gibson et al., 2003).

According to the Centers for Medicare and Medicaid, “home health includes skilled nursing care, as well as other skilled care services, like physical and occupational therapy, speech-language therapy, and medical social services. These services are given by a variety of skilled health care professionals at home”. Home health staff can provide, and coordinate patient care based on physician orders. The rise in popularity of home health can be attributed to improvements in medical science and technology as healthcare services once only able to be performed in a hospital can be provided at home, an interest in reducing healthcare costs while maintaining effectiveness, and patient preference to remain at home rather than at a hospital or nursing facility (*Medicare and Home Health Care*, n.d.).

### **The Importance of Culture**

Cultural differences are at the heart of this comparison, and it is widely recognized that there are cultural differences between Western and Asian nations (Hofstede, 1984). Dr. Geert Hofstede, a Dutch psychologist most well-known for his research on culture and organizational structure defines these differences:

Individualism societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism pertains to societies in which people from birth onwards are integrated into strong,



cohesive ingroups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede, 1997).

Individualism is a core component of the founding of many Western nations and continues to play a substantial role in American politics and society: "According to individualism...each person must look inward, find vision and resolve, and seize the opportunity to realize their full potential, lest they become a burden to others" (Thompson et al., 2023). In contrast, Confucianism has heavily influenced East Asian society and provided both a moral and philosophical framework that "prioritizes common good and social harmony over individual interests" (Kim, 1997). These fundamental cultural differences have effects on the differences in healthcare and long-term care systems in Taiwan and the United States.

Given the demographic similarities between these two countries, a comparison of their strategies and approaches to long-term care can be illuminating and have implications for future U.S. policy. In this thesis, the author performed a literature review on the topic of home healthcare services in Taiwan and the United States. Articles were coded with manifest content analysis. Emergent themes were then identified and will be discussed. This work and the broader field of long-term care will become exceedingly important as the world's population continues to grow older.

## **Methods**

In this section, the methodology for accessing, organizing, and analyzing the data will be presented. The author performed a systematic literature review utilizing the PubMed database to identify articles. Articles were then screened and those determined to meet the selection criteria were coded with manifest content analysis.

## **The PRISMA Method**

This research followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis method (PRISMA), a systematic process for conducting standardized literature reviews. The 2020 PRISMA statement contains a 27-item checklist including reporting recommendations for each item and flow diagrams to clearly and transparently identify why reviews were performed, what methods authors utilized, and what their findings were (Page et al., 2021).

## **Search Strategy**

A search algorithm was applied to the PubMed database on March 1, 2023, for long-term and home-based medical care articles. The search was repeated separately for both the United States and Taiwan. Boolean searches were performed with the following terms: “United States” AND “long-term care” AND “home-based medical care”. Date ranges were limited to articles published from March 1, 1995 (the date that Taiwan’s National Health Insurance was implemented) to March 1, 2023. Articles were limited to the English language.

## **Selection Process**

To be included in the literature review, articles needed to focus on long-term care systems and home health for older adults in Taiwan or the United States. Articles were required to meet the following eligibility criteria: 1) result from one of the two searches performed within the PubMed database; 2) utilize data gathered in the United States or Taiwan; 3) relate to long-term care; 4) focus on home health; 5) focus on an older adult (65+) population; 6) be published between March 1, 1995, and March 1, 2023; 7) be written in the English language. PubMed

search results were manually screened based on title and abstract, those determined not to fit the selection criteria were excluded. Full-text articles were then screened and coded by the author.

### **Data Collection Process**

Data was extracted from each eligible article by the author utilizing a data extraction form (see Appendix A) created for this project. Each article was assigned a unique numerical identifier. A standardized form was created in Microsoft Word with two tables: one that included general information about the title, author, publication date, methodology, and APA citation. The second table was used to record content analysis data and was further divided into individualistic indicators and collectivist indicators. Keywords listed under individualistic indicators were as follows: individual, patient choice, cost to patient, patient satisfaction, aging in place, and total occurrences of all keywords. Collectivist indicators included caregivers, population aging, population coverage, quality of care, effect on total healthcare spending, and total occurrences of all keywords. Data collected from each extraction form was then entered into two Microsoft Excel tables with one representing individualistic indicator occurrences and totals and the other representing collectivist indicator occurrences and totals.

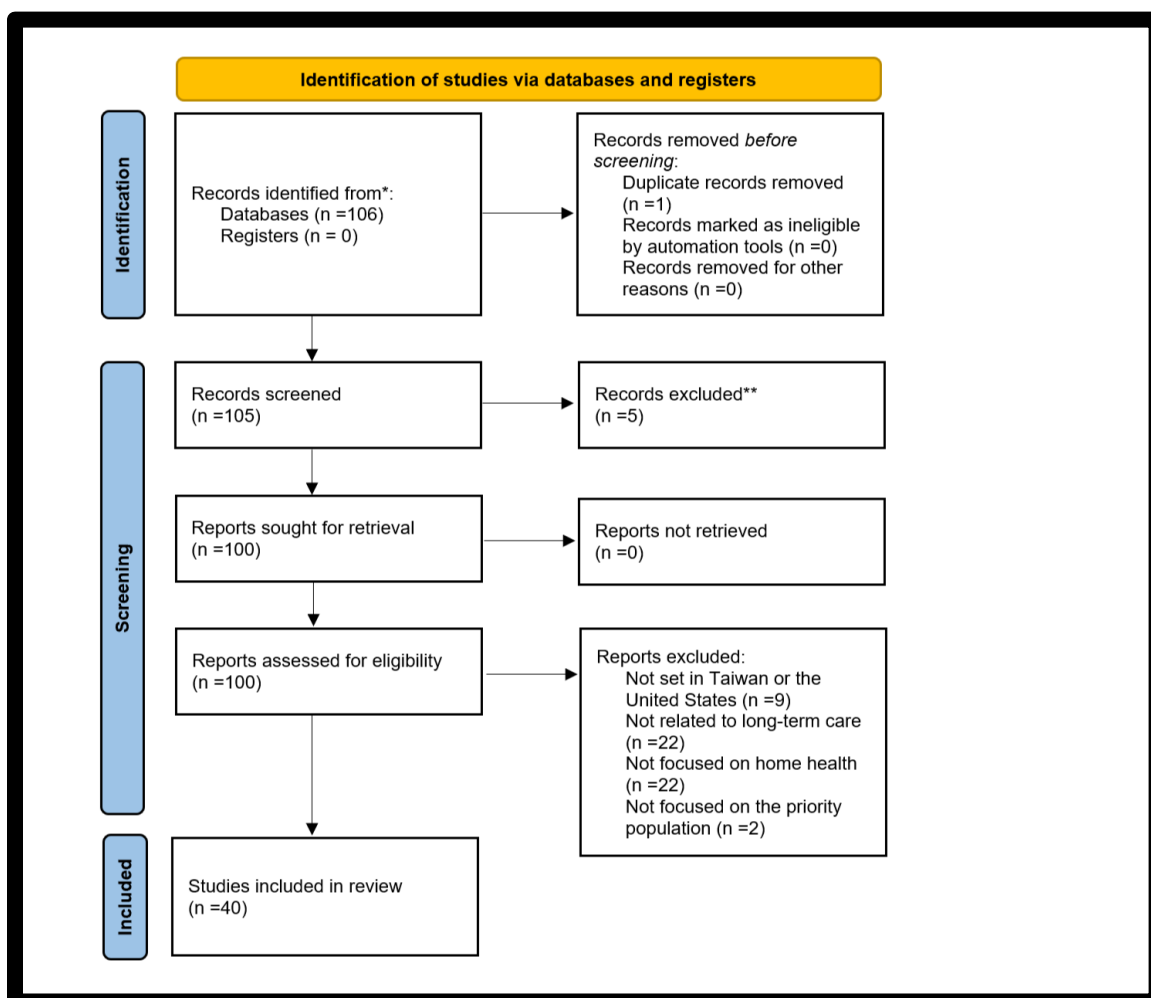
### **Content Analysis**

Articles used in this thesis were coded with manifest content analysis. Manifest content analysis “is concerned with data that are easily observable both to researchers and the coders who assist in their analysis”, describing the content occurring on the surface (Kleinheksel et al., 2020). Within this thesis, the author has recorded the frequency of usage of the selected ten keywords.

## Results

The two PubMed searches yield a total of 106 records, with N=17 for Taiwan and N=89 for the United States. After removing 1 duplicate record and an additional 5 records written in Chinese, the remaining 100 records were screened and decisions regarding eligibility were made based on title and abstract. Sixty records were excluded for the following reasons: N=9 articles were not set in Taiwan or the United States, N=22 articles were not related to long-term care, N=22 articles were not focused on home health, and N=2 articles were not focused on the target population of older adults. This process yielded a set of 40 articles that met the eligibility criteria, 7 of which were articles about Taiwan and 33 of which were articles about the United States. Figure 1 contains the PRISMA flow chart that displays the number of records identified, included, and excluded throughout the selection process. Appendix B presents the articles used for this analysis.

Figure 1 PRISMA Flow Chart

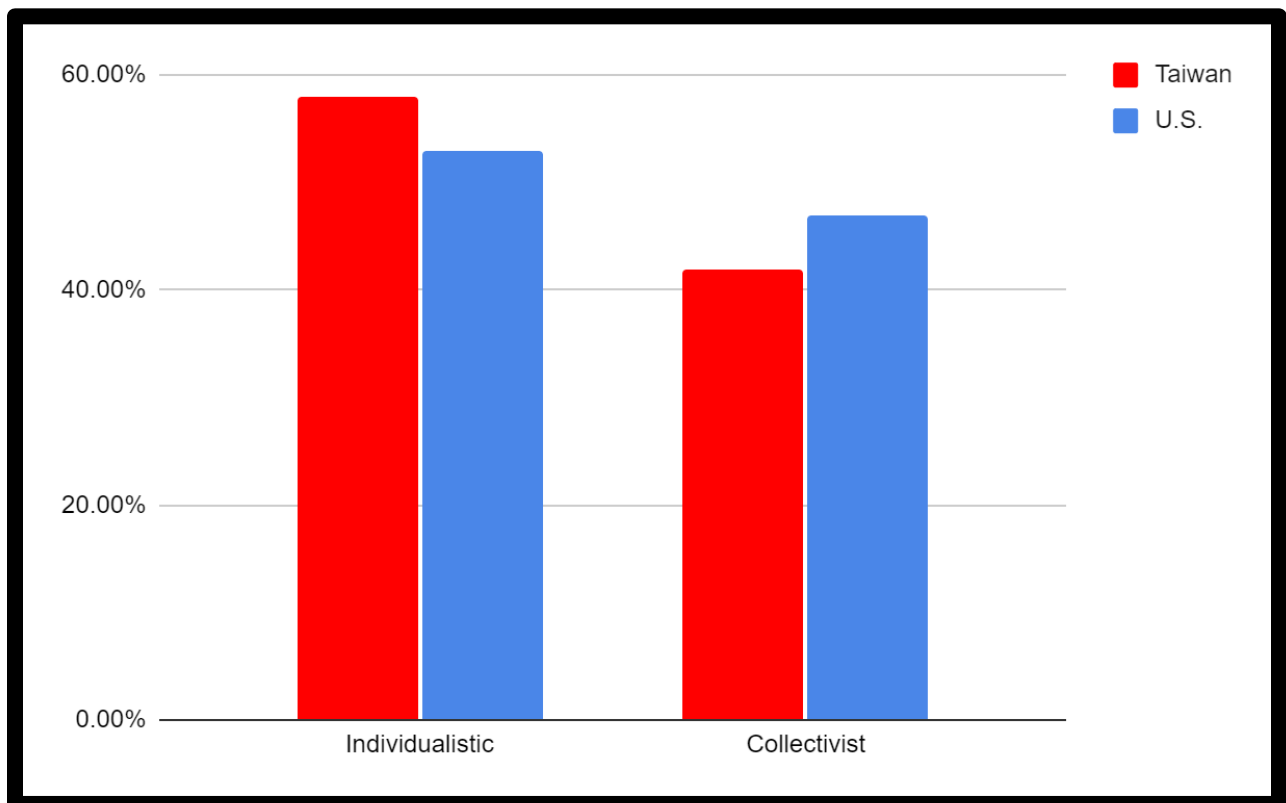


## Findings

Key findings center around the keywords representing individualistic and collectivist indicators: individual, patient choice, cost to patient, patient satisfaction, aging in place, caregivers, population aging, population coverage, quality of care, effect on total healthcare spending, and total occurrences of all keywords. Emergent themes and key findings are discussed below.

Figure 2 graphs the percentages of individualistic and collectivist indicators across selected Taiwan and the United States articles. The denominator for each category is the total number of all keyword occurrences collected by the data extraction form per set. The numerator represents what percentage of the denominator is related to individualistic or collectivist indicators. For the Taiwan set, represented in red, out of all keyword occurrences, 58% represented individualistic indicators while 42% represented collectivist indicators. For the United States set, represented in blue, out of all keyword occurrences, 53% represented individualistic indicators and 47% represented collectivist indicators.

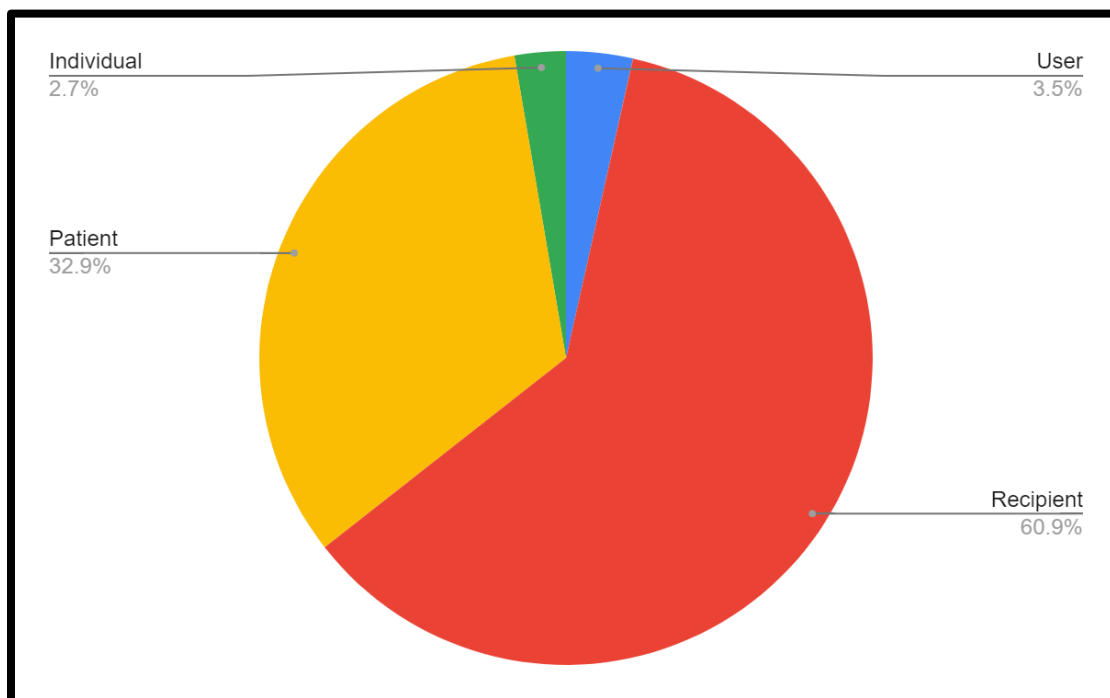
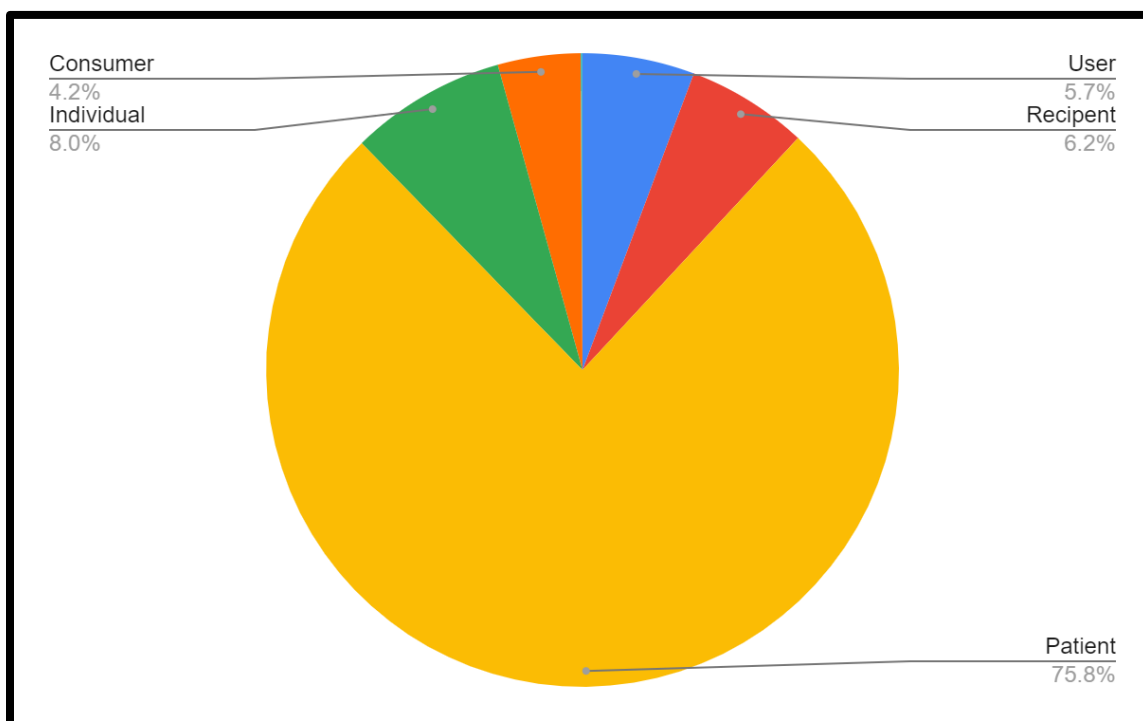
**Figure 2 Manifest Content: Individualistic & Collectivist Indicators**



## Individualistic Indicators

Taiwan and the United States differ in how they refer to the individuals receiving care; however, both sets use the terms ‘patient’, ‘user’, ‘recipient’, and ‘individual’ to varying degrees to describe older adults receiving home health services. The term “consumer” is only found within the United States set. Figures 3 and 4 depict the set of all words reflecting how individuals receiving care are characterized and their proportions to total “individual” occurrences. There was a total of 371 occurrences across the 7 Taiwan articles, averaging 53 occurrences per article. Comparatively, there was a total of 1,065 occurrences across the 33 United States articles, averaging 32 occurrences per article.

In the set of Taiwan articles, individuals were referred to as “recipients” 60.9%, “patients” 32.9%, “users” 3.5%, and “individuals” 2.7% of the time (Figure 3). For the set of United States articles, individuals were referred to as “patients” 75.8%, “individual” 8.0%, “recipient” 6.6%, “user” 6.1%, and “consumer” 4.5% of the time (Figure 4).

**Figure 3 Use of Individual Indicators: Taiwan****Figure 4 Use of Individual Indicators: United States**



## **Patient Choice**

Patient choice of services was rarely discussed throughout articles centered in Taiwan, with a total of two occurrences across all 7 articles. Both occurrences were from the same article. From the set of United States articles, occurrences of “patient choice” averaged approximately 2 times per article.

## **Cost to Patient and Effect on Overall Healthcare Spending**

Discussions about costs in both Taiwan and the United States were nonspecific to individuals or effects on overall healthcare spending and often generally referred to “healthcare costs” without explicitly tying costs to individual patients or to the healthcare system as a whole. However, discussions about cost to patients occurred with a similar frequency across both sets. For the set of Taiwan articles, “cost to patient” occurrences averaged 1.86 times per article. These occurrences often included the patient’s family in the discussion about the cost of care. For the set of United States articles, occurrences averaged 1.58 times per article.

In contrast, in the United States set of articles, “effect on overall healthcare spending” occurrences were much higher as compared to the Taiwan set with an average of approximately 5 times per article for the United States compared to less than one occurrence per article of Taiwan. Many of these occurrences in the United States set centered on rising healthcare costs and ways to stop or reduce these rising costs.

## **Caregiver**

Caregivers, in relation to home health care, are consistently mentioned in both sets of articles. For both sets, occurrences of “caregiver” accounted for the majority of overall

collectivist indicators. In the Taiwan set of articles, “caregiver” occurrences averaged 36.29 times per article. These occurrences accounted for approximately 91% of total average collectivist occurrences. In the United States set of articles, “caregiver” occurrences averaged 23.36 times per article. These occurrences accounted for approximately 72% of total collectivist occurrences.

### **Conclusion**

The results indicate that Taiwan and the United States differ in how they discuss home health across various individualistic and collectivist indicators. Most notably, the two countries differed in how the individuals receiving care were referred to, with “recipient” being the most common among the Taiwan articles (60.9%) and “patient” among the United States articles (75.8%). References to “recipients” imply the expectation of receiving services and are passive; compared to “patients” (the only term specific to healthcare within the set of words) reflecting the individual. The word “individual” had the lowest proportion among Taiwan articles and the second largest among the United States articles. It is a clear and direct reference to individualistic indicators and relates to the overarching theme of individualism and collectivism as seen in Taiwan and the United States. Similarly, “consumer” was the only word not utilized in both sets of articles. While both countries have market-based economies, mentions of “consumers” are limited to the United States’ discussions of home health. Taiwan does not view these individuals as willing consumers purchasing services for personal use, but rather as necessary recipients of home health services. This shift in language represents larger cultural differences and understandings of healthcare and older adults. Consumers also have choice, which may explain why the keyword “patient choice” has been mentioned an average of two times per article within

the United States set and was rarely mentioned throughout the Taiwan set. These differences also affect the general discussion of healthcare costs.

Both sets of articles were vague about discussions about cost, often generally referring to “healthcare costs” rather than costs to individual patients and costs to the overall healthcare system. Although average occurrences of the “cost to patient” were higher among the Taiwan set of articles, this difference was slight (1.86 times among Taiwan articles and 1.58 times among the United States articles). Taiwan articles did not discuss overall healthcare costs as much as the United States and discussions about the effect on overall healthcare spending were more prominent in the United States set, contributing to a large proportion of collectivistic indicator occurrences captured. Home health services were often posited as a method of reducing overall healthcare expenditures in the United States set; while providing home health services in the Taiwan set was implied due to the fact the majority of Taiwanese older adults live at home.

There were distinctions between Taiwan and the United States in discussions of caregivers. In Taiwan, caregiving is an obligation and expectation among family members, especially for the adult children of older adults because of a cultural emphasis on filial piety. This expectation, along with the number of older adults requiring home health services, explains the Taiwan set’s emphasis on caregivers. A focus on caregivers also speaks to the collectivist theme within the Taiwan set of how home health services impact those besides the patient such as the family and caregivers. Additionally, the presence and impact of foreign caregivers were included in the general discussion of caregiving in Taiwan (Chen et al. 2022; Wang et al. 2021; Yu et al., 2018), as an estimated one-third of older adults in Taiwan are cared for by foreign caregivers (Chen et al., 2022). Foreign caregivers were not mentioned in the United States set. Respite care was discussed across both sets of articles, as both recognized the importance of

respite in preventing caregiver burnout and potentially leading to better health outcomes for patients.; however, discussions were not as frequent or in-depth in the United States set as compared to the Taiwan set.

Veteran's health within the topic of home health services was a significant topic only discussed in one set of articles. Out of the United States set, more than a third of articles center around veterans and/or the Veterans Health Administration (12 out of 33). The veteran population is also aging and by some accounts has a much larger proportion of those 65+ perhaps needing additional medical care because of their military service in the Korean and Vietnam Wars compared to the general population. This phenomenon of aging veterans requiring home health services has implications for younger generations in the future. For these articles, there are higher occurrences of cost in relation to overall healthcare costs, as much of veteran care is paid for by the federal government.

Through the systematic review of articles in Taiwan and the United States, there are differences in the language about home health for older adults. Underlying these differences are cultural beliefs about how a society should function, with individualism or collectivism at its center. These beliefs have and continue to shape social structures, such as healthcare systems. And while it is beyond the scope of this thesis to examine specific programs or long-term care systems, the language about home health services for older adults offers a view into how cultural differences impact and shape differences among countries.

## **Limitations**

There were limitations to the research methods used in this thesis. The articles selected for this review were not evenly distributed between Taiwan and the United States, which has implications for both results and conclusions as this small sample set. Additionally, all record

selection and data extraction were performed by a single author potentially introducing bias into the selection process as well as coding and content analysis. The articles were also all retrieved from a singular database and limited by language constraints, which further contributed to the small set of Taiwan articles. It was also beyond the scope of this thesis to determine whether definitions and expectations of ADLs were standardized across both countries.

### **Indications for Further Research**

The purpose of this systematic review was to examine the language used in Taiwan and in the United States regarding home health. How distinctions between the individualistic lexicon and collectivist lexicon have impacted home-based medical care program design was beyond the scope of this thesis. Further study is needed into what the implications and long-term outcomes are for older adults receiving home health services in Taiwan and the United States.

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## Appendix A

**UI:**

Gloden Data Extraction Form

Long-term Care and Home Health: A Content Analysis between Taiwan and the U.S.

Taiwan    or    U.S.

Title	
Author(s)	
Publication Date	
Research Type (literature review, quantitative study, etc.)	
APA Citation	

### Content Analysis

	Mentioned? (Y/N)	Occurrence(s)	Context
<b>Individualism indicators</b>	xx	xx	xx
Individual			
Patient choice			
Cost to patient			
Patient satisfaction			
Aging in place			
TOTAL:			XX
<b>Collectivist indicators</b>	xx	xx	xx
Caregivers			
Population aging			
Population coverage			
Quality of care			
Effect on overall healthcare spending			
TOTAL:			XX

## Operational Definitions

Individual: Individuals receiving services and care from home health and long-term care systems and what terminology the article uses to refer to these individuals

Patient choice: Ability of individual consumers to select services and healthcare professionals they want

Cost to patient: The amount of money or burden that each individual pays or carries through receiving long-term care services

Patient satisfaction: Individual consumer or user satisfaction with the healthcare services they receive and the overall long-term care system

Aging in place: The phenomenon of senior citizens wishing to remain in their homes throughout the aging process

Caregivers: Those providing home healthcare services to senior citizens including unpaid family members as well as paid healthcare professionals

Population aging: Demographic trend among developed countries of populations growing older

Population coverage: Proportion of the population able to access and receive long-term care services

Quality of care: "Degree to which health services for individuals and populations increase the likelihood of desired health outcomes" (*Quality of Care*, n.d.)

Effect on overall healthcare spending: Long-term care spending impact on overall healthcare expenditures and national health expenditure share of GDP

## Appendix B

### Citations of Articles Included in Analysis

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