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ELEVATING LONG-TERM ELDERLY CARE IN MALAYSIA: A CLUSTER ANALYSIS APPROACH BASED ON BENCHMARKING WITH SELECTED COUNTRIES

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Abstract:

Malaysia is expected to become an aged society with a 14.1% ageing ratio in 2039, boosting demand for Long-Term Care (LTC). Nonetheless, a thorough review of current LTC systems is crucial due to their complexity, encompassing numerous ministries and departments. In analysing LTC systems in various countries based on components of effective LTC systems, this research suggests a new LTC framework for Malaysian systems. Cluster analysis is used across benchmarked nations: Australia, Germany, Japan, Singapore, Thailand, the United Kingdom, and the United States of America. There are two typologies used, with a total of ten variables employed: a) organisational depth with seven variables: legal framework, policy objectives, policy approach, means-tested assessment, entitlements, cash benefits, and choice of care provider; b) financial generosity and sustainability with three variables: financing mechanism, cost-sharing, and LTC expenses. Four key takeaways from the benchmarked countries: a) LTC insurance scheme, as adopted in Germany and Japan, proves effective with universal coverage, greater disclosure, and a structured approach; b) community-based model, widely adopted across all countries, fosters active stakeholders engagement in meeting elderly's needs; c) Centralised Administration (CA) provides a structured avenue to manage LTC services and expenses; and d) cost-sharing via private-public arrangements ensures the sustainability of the LTC expenses. The study suggests five improvements for effective LTC systems: a) broaden the recipients' pool to include the bottom 40% of the population to

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accommodate their financial constraints; b) implement a robust means-tested evaluation for equity, transparency, and inclusivity; c) incorporate a community-based model for comprehensive coverage; d) create a CA to handle complexity; and e) use public-private partnerships for sustainable financing model. In summary, this study aids policymakers in tackling the intricacies of Malaysia's LTC systems in line with the intended policy goals of guaranteeing a healthy ageing population, advocating comprehensive protection, and stimulating community-based care.

Keywords:

Bottom 40% Segment, Cluster Analysis, Financial Generosity And Sustainability, Long-Term Care, Organisational Depth, Policy Design, The Elderly

Introduction

Malaysia is approaching an aged society[1] by 2039, with an ageing ratio[2] of 14.1% (Department of Statistics, 2016), aligning with other Association of Southeast Asian Nations countries, including Singapore and Thailand (The World Bank Group, 2023b). In preparing Malaysia for an aged society, this research intends to evaluate the Long-Term Care (LTC) systems in Malaysia by identifying key elements required for effective systems.

According to the Cambridge Dictionary (2022), LTC is described as a medical treatment that lasts for an extended duration. Another definition outlined by the World Health Organisation (WHO) in 2000 refers to an essential component of health and social systems. This definition includes actions performed by informal caregivers (such as family, friends, and neighbours) for individuals in need of care (WHO, 2000). These formal caregivers include professionals, auxiliaries (such as health, social, and other workers), traditional caregivers, and volunteers (WHO, 2000). Furthermore, LTC encompasses comprehensive services that aim to assist the elderly in carrying out their daily activities to prevent further health deterioration and provide daily support with the help of formal or informal caregivers. It comprises two primary Activities of Daily Living (ADL): Basic ADL (BADL) and Instrumental ADL (IADL). BADL activities include eating, washing, and dressing, whereas IADL activities include cooking, shopping, and managing finances (OECD, 2021).

The public LTC system in Malaysia has been long established. However, there are major concerns about the complexity, limited resources, and financial sustainability. The complexity of LTC in Malaysia arises due to the involvement of multiple ministries and departments, leading to unclear criteria, overlapping responsibilities, and conflict of interest among stakeholders. Further challenges arise from limited resources in terms of infrastructure and financial aspects, leading to financial unsustainability and constraints to meet the majority needs of the low-income elderlies. This research is based on cluster analysis, focusing on two important typologies: organisational depth, and financial generosity and sustainability.

[1] According to United Nation, three types of societies: a) aging society, with ageing ratio between 7-14%, b) aged society, with ageing ratio between 14-20%, and c) super aged society, with ageing ratio more than 20% (Department of Statistics, 2016)

[2] measured by dividing number of persons aged 65 years and above over total population (Department of Statistics, 2016)

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Moreover, the selection of these two was based on extensive review and discussions in the Literature Review section.

The government and the lowest 40% (B40) of the population are expected to immediately benefit from this research. In particular, it will help the government simplify the intricacies of policy formulation by helping identify key components required to create ideal LTC systems. The adoption of a successful strategy will ensure access to LTC services and improve overall health quality, especially those in the B40 segments.

Literature Review

There are many components involved in evaluating the effectiveness of the LTC system. This research summarises and synthesises existing works of literature based on common variables of LTC, including key stakeholders and policy objectives, countries, policy design and typologies. The typologies consist of gap analysis based on qualitative methods of organisational depth, and financial generosity and sustainability.

Identification of the Key Stakeholders and Policy Objectives

The LTC system generally involves three main stakeholders: older individuals, the government, and communities. These stakeholders form a foundation of LTC systems towards ensuring healthy ageing (OECD/WHO, 2020). The first two direct impacts experienced by the elderly are the gradual decrease in physical and mental capacity and the increased susceptibility to disease and, ultimately, mortality (National Institute on Aging, 2020). A study discovered that the lower income segment has a greater impact due to prolonged poverty, reduced access to healthcare, increased morbidity, and ultimately reduced quality of life (McMaughan, Oloruntoba, & Smith, 2020). Therefore, it is imperative to pay special attention to the lower-income segment. Meanwhile, the second key stakeholder, the government, plays a critical role in meeting the needs of the elderly. McMaughan et al. (2020) indicated that the government is expected to remove the financial barriers to healthcare access and provide universal healthcare coverage. This can be achieved by developing cost-effective strategies and a sustainable intervention model (Shahar, Lau, Puteh, Amara, & Razak, 2019). Other options include providing a sufficient annual budget, imposing cost-sharing to LTC services, or designing effective LTC systems. However, based on the various studies, designing LTC systems is a complex process due to the three main factors: the absence of clear criteria to define the responsibility of each sector, the existence of different levels of government agencies, and the involvement of numerous stakeholders with diverse needs and interests (Dintrans, 2019; Naoki Ikegami, John P. Hirdes, & Iain Capenter, 2001; WHO, 2022). Therefore, in managing this complexity, in 2022, WHO suggested the establishment of explicit objectives and visions for the future, clarifying the challenges associated with the health systems and specifying decisions, plans, and actions. The last main stakeholder is the community, including family members and relatives, who directly and indirectly support the elderly. As the National Institute on Aging (2020) reported, communities face the challenge of securing adequate resources to care for older people. Moreover, the need for LTC will not be satisfied if communities are unable or unwilling to assist the elderly (OECD, 2020)

Discussions on LTC policy objectives began in Malaysia in 1997, with Karim emphasising the need for an ageing-focused health policy and addressing the obstacles caused by the ageing population. These discussions included advocating for universally available, equitable, and quality health services and implementing comprehensive social insurance for LTC to ensure

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the elderly receive equal treatment and protection (Goh, Lai, Lau, & Ahmad, 2013; Karim, 1997). Furthermore, there is a policy shift from institutional care to community-based care, consistent with changing cultural values (Poi, Forsyth, & Chan, 2004; United Nations, 2018). Another study conducted by Poi et al. (2004) emphasised the importance of investing in community-based care initiatives, such as rehabilitation for older patients. In a recent speech, the former Minister of Health (MOH), YB Khairy Jamaluddin, demanded that countries strive towards universal coverage (Ministry of Health, 2022). These findings suggested that Malaysia needs to work towards the desired policy objective that provides a comprehensive approach to creating effective LTC systems. It is about time for Malaysia to have a specific policy focused on LTC due to an increasingly ageing population that leads to the need for LTC services, especially for the elderly, becoming more pronounced. Hence, the desired policy objective for this research is geared towards ensuring healthy ageing, promoting universal and comprehensive protection, and encouraging social or community-based care. The desired policy objective aims to facilitate end-to-end integration of the LTC systems.

Identification of the Benchmarked Countries

The countries for benchmarking were selected based on the development of their LTC systems to facilitate the achievement of the research objectives to propose an effective LTC system for Malaysia by identifying its key elements. For this research, seven countries were selected– Australia, Japan, Germany, Singapore, Thailand, the United Kingdom (UK), and the United States of America (USA).

The seven countries were selected since they shared some common characteristics. The first characteristic is the level of maturity of the ageing population, with Japan and Germany leading the ageing ratio of 30% and 22% in 2022, respectively. This classifies them as super-aged societies (The World Bank Group, 2023a). Other countries will be classified as ageing societies in 2022: the UK's ageing ratio is 19%, Australia's and the USA's ageing ratio is 17%, and Singapore's and Thailand's with an ageing ratio of 15% (The World Bank Group, 2023a). The second characteristic is the presence of long-established LTC systems. Japan and Germany have established mandatory LTC Insurance (LTCI) schemes (Federal Ministry of Health, 2016b; Japan Health Policy NOW, 2016). Meanwhile, the UK and the USA have centralised administrations for policy formulation, operationalisation, and monitoring. This includes the Department of Health and Social Care (DHSC) and Centers for Medicare and Medicaid Services (CMS) (Centres for Medicare and Medicaid Services, 2023; Department of Health and Social Care, n.d.-a). In addition, the USA has undergone significant changes since 1935 (The Henry J. Kaiser Family Foundation, 2015). The third characteristic focuses on the participation of communities in LTC systems. Despite the government's inability to fund LTC costs, local communities have played their role in providing LTC services, as exemplified by the "Lamsonthi Model" in Thailand (Duangjai Lorthanavanich & Osuke Komazawa, 2021). Additionally, all countries acknowledge the importance of a community-based model. Finally, similarities with Malaysia are considered. Singapore, for example, has a similar demographic profile with a multi-ethnic population. Furthermore, Australia, the UK, and the USA provide free coverage to lower-income segments, similar to facilities available in Malaysia. Accordingly, these selected countries provide valuable insights into key elements that can help develop effective LTC systems.

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Qualitative Gaps Analysis of Policy Design across Benchmarked Countries

Effective LTC systems rely on policy designs customised to the particular requirements of each country. The designs offer respectable care and consider the special needs of the elderly. Therefore, three aspects have been discussed to facilitate a better understanding of how the policy design affects organisational depth, and financial generosity and sustainability.

The first consideration is the legal framework. In every benchmarked country, policies are specifically designed to promote the independence and general well-being of the elderly. There are two forms of legal frameworks in place to control and direct the implementation of LTC systems: acts and national policies. Singapore and Malaysia have dedicated national policies, while the remaining six countries – Australia, Germany, Japan, Thailand, the UK and the USA – have dedicated acts (Department of Health and Aged Care, 2022; Department of Social Welfare, 2023a; Federal Ministry of Health, 2016a; House of Commons, 1990; Ministerial Committee on Ageing Singapore, 2023; Ministry of Justice, 1997; The Henry J. Kaiser Family Foundation, 2015; The World Bank Group, 2021). Policy names and dedicated acts related to LTC systems are specified in Table 1 below.

Table 1: Policy Names and Dedicated Acts Related to LTC Systems in Selected Countries

Countries	Name
Malaysia	National Policy for Older Persons 2011 Plan of Action for Older Persons Health Services 2008, revised 2017/2018
Australia	The Aged Care Act 1997
Germany	Long-Term Care Strengthening Act 2015
Japan	Long-Term Care Insurance Act 1997
Singapore	Action Plan for Successful Ageing 2015, revised in 2023
Thailand	Elderly Act 2003
The UK	National Health Service and Community Care Act 1990
The USA	Older Americans Act 1965

Sources: Department of Health and Aged Care, 2022; Department of Social Welfare, 2023a; Federal Ministry of Health, 2016a; House of Commons, 1990; Ministerial Committee on Ageing Singapore, 2023; Ministry of Justice, 1997; The Henry J. Kaiser Family Foundation, 2015; The World Bank Group, 2021

The second consideration is policy objectives. Each benchmark country has unique and specific objectives. For example, Malaysia works towards caring communities and integrated LTC systems, Australia emphasises supporting well-being and independence, and both Germany and Japan focus on universal health coverage (Department of Health and Aged Care, 2022; Federal Ministry of Health, 2016b; Health and Global Policy Institute, 2019; Sulaiman, 2019). Singapore, on the other hand, centres its approach around care, contribution, and connectedness, while Thailand outlines strategies for economic opportunity and LTC innovation (Ministry of Health, 2023b; The World Bank Group, 2021). Meanwhile, the UK aims to help people live longer and more independently, and the USA focuses on improving health and well-being (Department of Health and Social Care, n.d.-a; The Henry J. Kaiser Family Foundation, 2015). Moreover, six common themes employed by countries include independence, community involvement, preventive health initiatives, universal coverage, delivery system improvement, and lifelong learning. A summary of the policy objectives of each country is provided in Table 2 below.

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Table 2: The Summary of Policy Objectives Based on Countries

Countries	Policy Objectives
Malaysia	To develop caring communities, create an effective and integrated delivery system, facilitate access to lifelong learning, enhance older persons' participation in a community, ensure protective and safe environment, and encourage application of research
Australia	To support the well-being and independence of older people and their carers by enabling them to remain in their homes or providing assistance in residential care
Germany	To ensure universal coverage of health
Japan	To ensure universal coverage of health
Singapore	To empower seniors to take charge of their physical and mental well-being through preventive health initiatives, enable seniors to continue contributing their knowledge and expertise by enhancing learning, and support seniors to age in the community
Thailand	To enhance economic opportunity for the elderly, encourage innovative LTC, strengthen family and community support, and promote independence through the ageing process
The UK	To help people live more independently, healthier for longer
The USA	To improve the health and well-being of older adults

Sources: Department of Health and Aged Care, 2022; Department of Health and Social Care, n.d.-a; Federal Ministry of Health, 2016b; Health and Global Policy Institute, 2019; Ministry of Health, 2023b; Sulaiman, 2019; The Henry J. Kaiser Family Foundation, 2015; The World Bank Group, 2021

The final consideration is the policy approach. In Malaysia, the implementation of the National Programme for Older Persons is driven by the government, which involves six ministries and two departments, which are the MOH, Ministry of Women, Family and Community Development, Ministry of Education, Ministry of Housing and Local Government, Ministry of Human Resource, Ministry of Science, Technology and Innovation, Department of Social Welfare and Economic Planning Unit (Salleh, 2017; Sulaiman, 2019). The involvement of various stakeholders demonstrated the complexity of the LTC systems. In managing potential complexity, The Aged Care Act 1997 in Australia is supported by 17 principles, including accountability, allocation, and approval of care recipients' principles (Department of Health and Aged Care, 2022).

Both Germany and Japan shared the same policy objective of universal coverage. They employed the same policy approach, i.e., via the establishment of a mandatory LTCI scheme, which was introduced in 1997 and 2000, respectively (Federal Ministry of Health, 2016b; Yamada & Arai, 2020). Mandatory LTCI is considered an equitable and efficient means of funding LTC expenses due to the existence of a clear link between contributions and benefits, more detailed and specific eligibility criteria, and more progressive ways of earnings charging as higher income will contribute more than lower-income (Karagiannidou & Wittenberg, 2022). Furthermore, it is cited that introducing LTCI has reduced the care burden for LTC recipients' families (Japan Institute for Labour Policy, 2016). As reported in LTCI, published in 2016, in Japan, the government and employers contribute to the scheme based on the amount and rate determined by the municipal government (Japan Health Policy NOW, 2016). The municipal government also acts as the administrator of the scheme and issues licences to LTC providers (Japan Health Policy NOW, 2016). Both countries acknowledge the involvement of private arrangements. In addition to private LTC providers, Germany requires the LTC fund to

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be managed by insurance companies on a statutory basis, while the structure and financing are determined by the Leander (Federal Ministry of Health, 2016b). Additionally, Germany also explicitly acknowledges the involvement of local communities as a responsible party in managing issues related to LTC (Federal Ministry of Health, 2016b).

In implementing the Action Plan for Successful Ageing, MOH in Singapore collaborates with the Agency for Integrated Care, the Ministry of Social and Family Development, the Health Promotion Board, and the People's Association (Ministry of Health, 2023b). The systems also involve active collaboration between public and private institutions. Similarly, in the UK and the USA, both public and private arrangements are integral to the LTC systems. Notably, the evolution of LTC systems in the USA has evolved significantly, transitioning from nursing homes (1935-1970) to community-based services (1970-2010) and, more currently, health reform initiatives (2010-current) (Office of Disease Prevention and Health Promotion, n.d.; The Henry J. Kaiser Family Foundation, 2015). The CMS, formally known as the Health Care Financing Administration, was established in 1977 to oversee the management of healthcare services (Centers for Medicare and Medicaid, 2021). The CMS finalised the programmes related to home and community-based care in 2014 (The Henry J. Kaiser Family Foundation, 2015). In the case of the UK, the DHSC serves as the cornerstone of the LTC systems, with assistance from 24 agencies, such as the Medicines and Healthcare Products Regulatory Agency and the UK Health Security Agency (Department of Health and Social Care, n.d.-a, n.d.-b).

Interestingly, the evolution of the LTC systems in Thailand started in 1986 with the National Survey on Ageing (Duangjai Lorthanavanich & Osuke Komazawa, 2021). In 2002, the 2nd National Plan on the Elderly (2002–2021) was accepted by the cabinet, followed by the Elderly Act 2003 and the establishment of the National Committee in 2004 (Duangjai Lorthanavanich & Osuke Komazawa, 2021). The latest initiatives outlined in the National Strategy (2017–2036) emphasise ways to address issues in LTC systems (The World Bank Group, 2021). However, the report on Caring for Thailand's Ageing Population (2021) highlighted issues within the LTC systems. This includes an inadequate monitoring and evaluation programme, poor instruction, weak links with the private sector, and a lack of harmonisation across ministries and agencies (The World Bank Group, 2021). In response to these challenges, Thailand has initiated several pilot programmes, such as the "Lamsonthi model," introduced by Dr. Santhi Larpbenjakul, the director of the Lamsonthi Hospital in 2006 (Nalinee Tantuvanit, 2021).

In conclusion, emulating the active participation, coordination, and collaboration between public and private entities is one area for improvement in the Malaysian context. Furthermore, a centralised administration will simplify the management of LTC services while minimising the complexity of the LTC systems in Malaysia.

Identification of the Suitable Typologies

Numerous studies indicated that identifying appropriate groupings or typologies within LTC systems is critical to understanding how LTC fits into the larger welfare state (Kraus et al., 2010; Reibling, Ariaans, & Wendt, 2019). The grouping of LTC systems began in 2003 when the WHO, in Key Policy Issue in LTC, focused on a matrix centred on primary and other design policies. However, due to data constraints and for the purpose of simplicity of classification based on countries, Kraus et al. (2010) employed a clustering method based on two typologies:

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system characteristics and financing of care. In 2014, Mor et al. expanded LTC typologies to include quality regulations, which then expanded into centralisation versus decentralisation and allocating single versus multiple levels of responsibility (Leone, Maresso, & Mor, 2014; Trigg, 2018). The evolution of typologies continued when Joshua (2017) broadened the scope of financing to address concerns regarding the financial sustainability of LTC, considering both social insurance and general taxation. The latest development in assessing typologies for the ageing population, as proposed by Dyer SM et al. (2020), incorporated three aspects: organisation and financing, quality regulation, and additional information on financing. The first typology, organisation and financing aspects, focuses on means-tested assessment, entitlement to LTC, availability of cash benefits, choice of providers, quality of assurance, coordination between LTC and other services, and cost-sharing (Dyer SM et al., 2020). Meanwhile, the next typology is quality regulation, which includes regulation responsibilities, publicly available quality information, regulatory approaches, quality assurance, and LTC workers (Dyer SM et al., 2020). The final typology relates to additional information on financing, including the source of funding, out-of-pocket costs, and type of providers (Dyer SM et al., 2020).

The evolution of the determination of the typologies has facilitated this research. Coupled with the key features observed in benchmarked countries and the current stage of LTC development in Malaysia, it is necessary to modify and propose a new set of typologies for the Malaysian context. Based on the reviews, this research focuses on two main typologies for LTC, including organisational depth and financial generosity and sustainability, as below.

Organisational Depth

In Malaysia, the LTC services rely on family members, relatives, and government assistance (Hamdy & Md Yusuf, 2018). The government provides several initiatives, including monthly monetary assistance of RM500, activities centres for older people, assistance for artificial devices, homes for older persons and chronically ill, and a home help programme (Department of Social Welfare, 2023b). Due to stringent eligibility and limited facilities provided by the government, only 151,833 individuals, representing 15%[3] of B40 segments or 6.8% of the total elderly population, received support in 2019 (Department of Social Welfare, 2020). The distribution of the types of initiatives is provided in Table 3 below.

Table 3: Number of Recipients of Malaysian Public LTC Services in 2019

Types of assistance/facilities	Number of recipients
Monetary assistance	142,325
Activity centres for older persons & we care unit	Info not available
Artificial assistance	Info not available
Home for older persons (Rumah Seri Kenangan)	1,405
Homes for chronically ill (Rumah Ehsan)	217
Home help programme	7,886

Source: Department of Social Welfare, 2020

In Australia, there are four major categories of services provided by both public and private institutions: residential care, home care, flexible care, and hope support (Mark Rosanes, 2023; Rebecca Store & Alex Grove, 2021; The Australian Institute of Health and Welfare, 2023).

[3] B40 elderly is 1 million or 45.5% of total elderly in Malaysia (Hamid, 2019)

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Note that palliative or end-of-life care is also provided by the Australian government (Barber et al., 2021). Individuals in Australia are also subject to a means-tested assessment process through My Aged Care, with approval determined by the Aged Care Assessment Team, to ensure the sustainability of LTC costs (Australian Government, 2023). In addition, the Australian government provides primary carers with a carer allowance (Roosa Tikkanen, Osborn, Mossialos, Djordjevic, & Wharton, 2020). As of 2021/22, the LTC systems in Australia, particularly the Commonwealth Home Support Programme and Home Care Packages, cover 23.7% of the older population (Productivity Commission, 2023).

Both Germany and Japan exhibit similar organisational depth in their LTC systems due to the adaptation of universal coverage. The benefits provided are extensive, ranging from preventive to palliative care, and both countries do not employ means testing (Federal Ministry of Health, 2015; Yamada & Arai, 2020). Both Germany and Japan have developed protocols to determine the appropriate course of action. In Germany, the benefits are categorised into five grades and assessed based on six factors: mobility, cognitive and communicative abilities, behaviour and psychological problems, self-reliance, coping with and independent handling of demands and pressures caused by illness or the needs for therapy, and organising everyday life and social contacts (Federal Ministry of Health, 2015). Depending on the disability grade, three types of benefits are offered: non-residential cash benefits, non-residential benefits in kind, and benefit amount for residential care (Federal Ministry of Health, 2015). In contrast, the assessment process in Japan involves a 74-item computer-based questionnaire that evaluates an individual's daily activities (Yamada & Arai, 2020). After this assessment, medical professionals and the board of the municipal government evaluate the applicant's mental and physical condition (Ministry of Health, 2002). There are two levels in the support category and five levels in the care or disability category, with level 1 representing the least disabled person and level 5 representing the most disabled person (Yamada & Arai, 2020). In 2000, LTCI in Japan covered 2.18 million certified users (Statistics Bureau, 2022).

In Singapore, both public and private entities offer benefits ranging from preventive care to palliative care for the elderly (United Nations, 2015). There are over ten programmes available for the elderly and their families, each specifically designed to meet their needs (Ministry of Health, 2023a). Singaporeans are subjected to a means-tested subsidy framework, revised in January 2023 (Ministry of Health, 2023a).

Similarly, means-tested assessments have been established, and public and private arrangements have been adopted by both the UK and the USA. In England, a means-tested assessment is conducted if the recipient's savings exceed £23,250 (National Health Service, 2022). Meanwhile, in the USA, eligibility for Medicaid programmes necessitates an evaluation of an individual's income, determined by the Modified Adjusted Gross Income, as enacted under The Affordable Care Act (Medicaid.gov, n.d.). Moreover, approximately six main programmes are administrated by governments, including Medicaid, Programmes for All-Inclusive Care for the Elderly, State Health Insurance Assistance Programme, Department of Veterans Affairs, and Social Security Administrative Programmes (National Institute on Aging, 2022). In 2016, 8.3 million elderly received LTC services, accounting for 17.5% of those covered under the government initiative (Harris-Kojetin L et al., 2019).

In summary, the establishment of a structured means-tested assessment framework will ensure that the elderly have a minimum social safety net. This type of initiative could be replicated in

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a Malaysian context. Furthermore, two additional areas for improvement that can be considered are expanding the provision of a variety of LTC services that cater to the needs of each stage of the elderly life cycle, including preventive care, and broadening the scope of coverage from hardcore poor to the B40 segments.

Financial Generosity and Sustainability

In terms of financial generosity, LTC expenses in Malaysia and Thailand were significantly lower than those in the benchmarked countries, as indicated in Figure 1 below (Kofi Ampaabeng & Liam Sigaud, 2022; WHO, 2023). The costs accounted for about 0.0004% and 0.0001% of their respective Gross Domestic Product (GDP) (WHO, 2023). This comparison is based on the most recent year of data available.

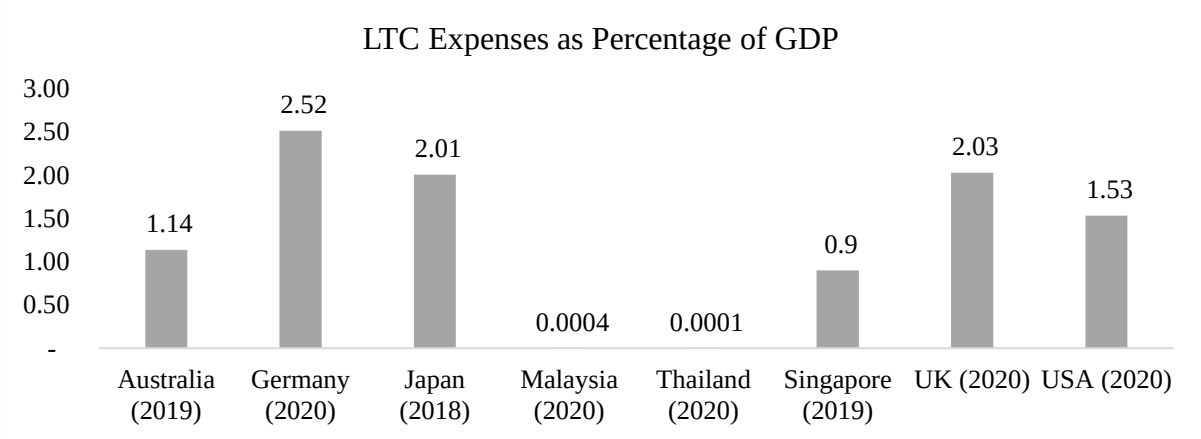

Figure 1: LTC Expenses as Percentage of GDP

Source: Kofu Ampaabeng & Liam Sigaud, 2022; WHO, 2023

In Malaysia, there is a potential instability of LTC expenses, as depicted in Figure 2 below. Only the government consistently provides a budget of around RM1 million a year (Ministry of Health Malaysia, 2021). However, the insignificant amount raises a concern about the sufficiency of future LTC expenses in light of the transition from an ageing society to an aged society in 2039 (Ministry of Health Malaysia, 2021).

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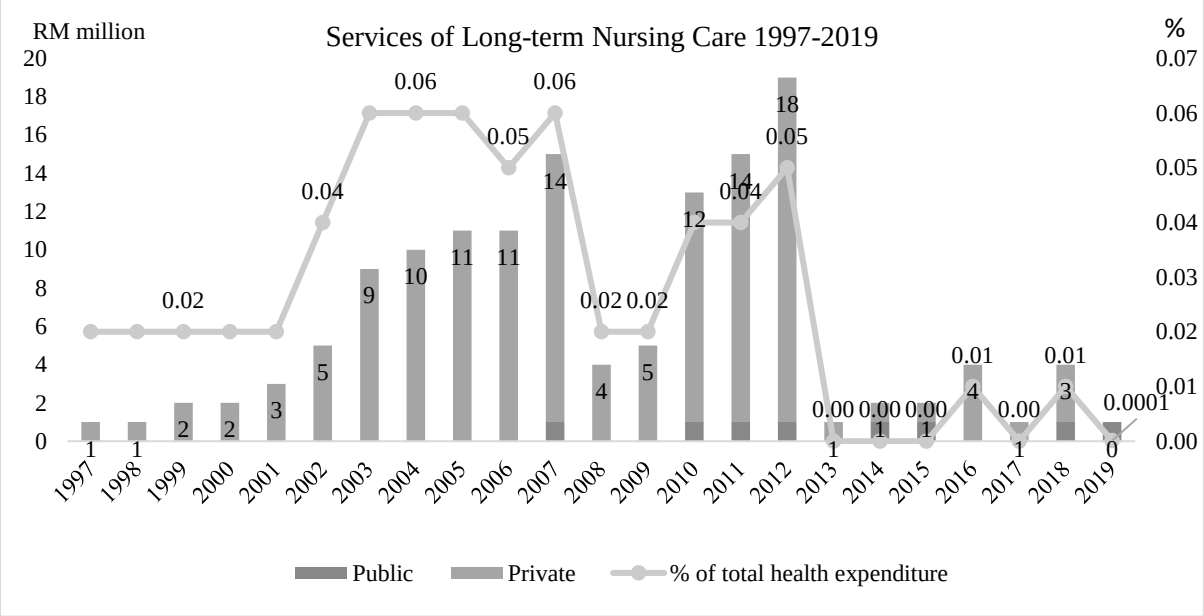

Figure 2: Total Expenditure

Source: Ministry of Health, 2021

Although a detailed breakdown of LTC costs is unavailable, it is essential to note that government funding accounted for the majority of total health expenditures, amounted to RM36.6 billion in 2020, or 55% of the total expenditure (Ministry of Health, 2021). Furthermore, no payment is required from the elderly for public initiatives as the LTC services are limited to the hardcore poor and fully funded by the governments (Shair & Purcal, 2021). In contrast, financing LTC expenses come mainly from family members through out-of-pocket payments in private residential facilities in Thailand (Asian Development Bank, 2020). The government only finances the Community-Based LTC Programme under the National Health Security Office (Asian Development Bank, 2020). In Australia, the government paid 80% of LTC expenses, or amounted to $21.2 billion for 2020/21 (Department of Health and Aged Care, 2021). Similarly, social care in the UK is primarily funded by local government revenue. Net local authority expenditure for England was £19 billion in the fiscal year 2021/22 (David Foster & Rachael Harker, 2023).

In Japan, the LTCI is funded equally by the population and government (Yamada & Arai, 2020). Individuals aged 40 and above pay into the LTCI based on their income level, and the premium is set by the municipal government (Japan Health Policy NOW, 2016). Meanwhile, in Singapore, the cost of LTC was 0.9% in 2019, according to an article titled "Long-term care financing: A tour around the world" (Kofi Ampaabeng & Liam Sigaud, 2022). The government and out-of-pocket expenditures contributed to 42% and 40% of the LTC expenses, respectively, in 2015 (Graham & Bilger, 2017). Similarly, in the USA, in 2020, 50.3% or USD286.7 billion of the LTC expenses were provided by Medicaid and Medicare programmes (Congressional Research Service, 2022).

This leads to the conclusion that the sustainability of the financing can be obtained through joint arrangements between the private sector and the government. Hence, to achieve the research's desired policy objectives, which include ensuring healthy ageing, promoting universal and comprehensive protection, and encouraging social or community-based care, mandatory arrangements similar to LTCI in Germany and Japan could be considered in the

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Malaysian context. However, due to concerns about awareness and affordability, the contribution from private arrangements could be shifted from individuals/employees to corporate entities, possibly through corporate social responsibility.

Methodology

The ultimate objective of this research is to evaluate the LTC systems in Malaysia by identifying key elements required for effectiveness. The evaluation of LTC systems is based on four main components of LTC that have been comprehensively reviewed in the Literature Review section, including 1) key stakeholders and policy objectives, 2) countries, 3) policy design, and 4) typologies. Subsequently, this research is designed based on the six steps as depicted in Figure 3 below, in which stages one to four have been completed in the Literature Review section.

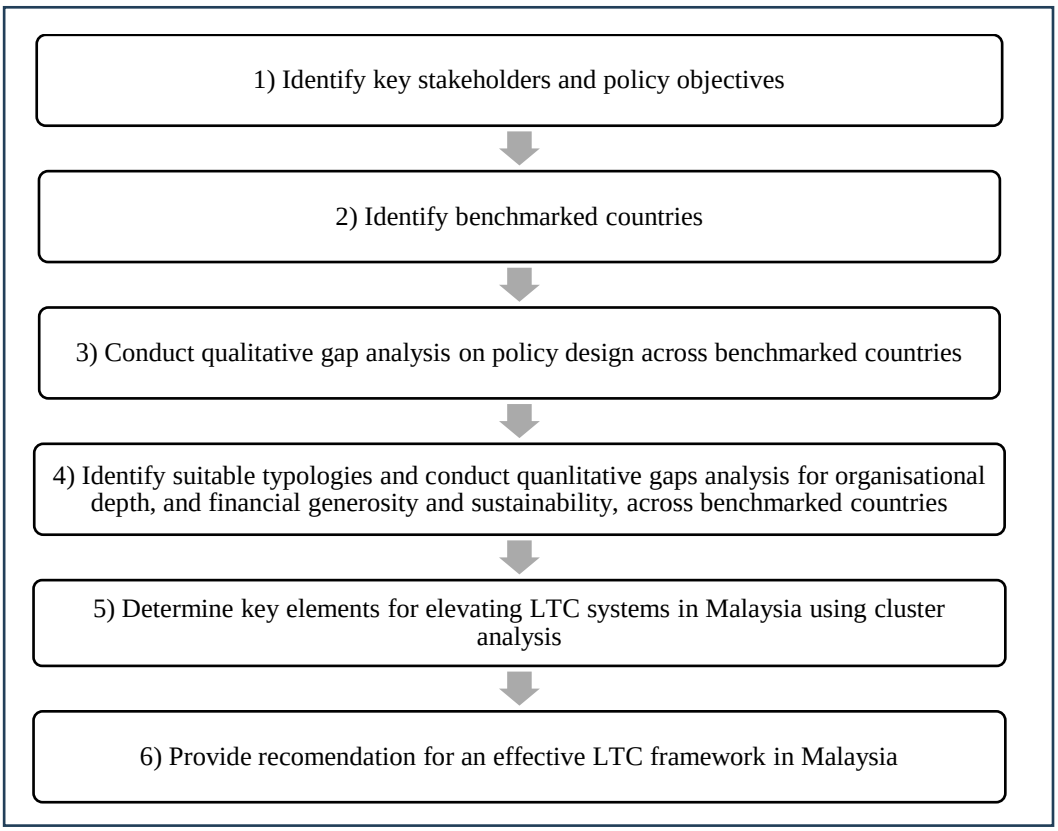

Figure 3: Research Design

The first step involved identifying key stakeholders and policy objectives to ensure that the LTC systems in Malaysia considered and met the expectations of various stakeholders. Guided by policy aspirations in works by Karim H (1997), WHO (2003), Poi et al. (2004), United Nations (2018), Organisation for Economic Co-operation and Development (OECD)/WHO (2020), and MOH (2022), a desired objective for this research is ensuring healthy ageing, promoting universal and comprehensive protection, and encouraging social or community-based care. This overarching objective becomes the guiding principle in determining the effectiveness of the LTC systems in this research. In the second step, countries were selected for meaningful review and comparison. Four characteristics were observed, including the stage of the ageing society, the long-established LTC systems, the community-based model, and the commonality of Malaysia. The next step was to conduct qualitative gap analyses on policy

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design across benchmarked countries. Three focus areas were observed: the legal framework, policy objectives, and policy approach. The fourth step was to identify suitable typologies for benchmarking purposes and conduct a qualitative gap analysis of organisational depth, and financial generosity and sustainability. The fifth step is determining the key variables for each typology for effective LTC systems in Malaysia. The first typology, organisational depth, is supported by seven variables: legal framework, policy objectives, policy approach, means-tested assessment, entitlement towards LTC services, cash benefits, and choice of provider. The second typology, financial generosity and sustainability, consists of three variables: financing mechanism, cost-sharing, and LTC expenses. This research expands organisational depth to include policy design, a modification of typologies proposed by WHO (2003), Kraus et al. (2010), Mor et al. (2014), Leone et al. (2014), Joshua (2017), Trigg (2018), and Dyer SM et al. (2020). The inclusion of policy design is crucial in assessing the effectiveness of the LTC system, leading to the determination of the key essential elements in LTC systems. Note that data and information have been sourced from the government's official websites, such as MOH and the Department of Statistics in Malaysia, as well as reputable organisations. This includes the OECD, WHO, and the World Bank. Additionally, information is also gathered from the websites of the benchmarked countries.

In identifying the key elements for effective LTC systems in Malaysia, variables in steps three and four have been transformed into ordinal scale/pseudo matrix variables, as outlined in Table 4. This transformation is conducted to create an index for the organisational depth, represented as OD_i and an index for the financial generosity and sustainability, represented as FGS_i. The equations of these indices are as follows:

$$OD_i = \sum_{j=1}^{n} OD_{ji}, \quad (1)$$

$$FGS_i = \sum_{j=1}^{n} FGS_{ki}. \quad (2)$$

where
i = 1, 2, 3, 4, 5, 6, and 7, represents countries under the study: Malaysia, Germany, Japan, Singapore, Thailand, the UK and the USA

OD_j represents organisational depth typology with j variables.

j = 1…,7, where 1 stands for legal framework, 2 stands for policy objectives, 3 stands for policy approach, 4 stands for means-tested assessment, 5 stands for entitlement to LTC, 6 stands for the availability of cash benefits, and 7 stands for the choice of provider.

FGS_k represents financing generosity and sustainability typology with k variables.
k = 1, 2, and 3, where 1 denotes types of financing mechanism, 2 denotes availability of cost-sharing, and 3 denotes the value of LTC expenses as a percentage of the GDP.

For the purpose of this research, the variables are defined using the common interpretation. In cases where the interpretation might be subjective, a specific interpretation has been provided. The means-tested assessment is utilised to determine the eligibility of the elderly for government assistance (National Health Service, 2022). In addition, entitlement refers to all or specific population segments eligible for government initiatives (merriam-webster, n.d.). The ordinal scale for LTC expenses as a percentage of GDP is sourced from Kraus et al. (2010). Table 4 contains detailed explanations of the ordinal scale of each variable.

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Table 4: Definition of Ordinal Scale of Each Variables Used in Cluster Analysis

Variables	Ordinal Scale
Legal Framework (LF)	1: dedicated national policies 2: dedicated act
Policy Objectives (PO)	1: existence of less than 3 common themes 2: existence of 3 to 4 common themes 3: existence of universal coverage or more or equal to 5 common themes
Policy Approach (PA)	1: have a minimum element of policy design but do not exhibit a structured approach 2: have a structured approach 3: have a structured approach that exhibits a sustainable financing mechanism
Means-Tested Assessment (MTA)	1: means-tested assessment is required 2: means-tested assessment is not required
Entitlement (Ent)	1: entitlement to LTC is strictly limited to hardcore poor 2: entitlement to LTC is moderate 3: entitlement to LTC is available to all elderly
Cash Benefits (CB)	1: cash benefits are not available 2: cash benefits are available
Choice of Provider (CoP)	1: the government's initiative is mostly limited to public provider 2: the government's initiative can be accessed by public or private providers
Financing Mechanism (FM)	1: financing of LTC in public facilities is solely provided by the government 2: financing of LTC in public facilities is provided by government and private entities
Cost-Sharing (CS)	1: the elderly (or caregiver) need to share a portion of the LTC expenses 2: the elderly (or caregiver) do not have to share any of the LTC expenses
LTC Expenses (Exp) (% GDP)	1: LTC expenses are less than 0.5% of GDP 2: LTC expenses are between 0.5% and 1% of GDP 3: LTC expenses are between 1% and 1.5% of GDP 4: LTC expenses are between 1.5% and 2% of GDP 5: LTC expenses are more than 2% of GDP

As defined in equation (3), the effectiveness of a system is determined by the sum of organisational depth, and financial generosity and sustainability. The higher the value, the more effective the system. The maximum value is 26.

$$Effectiveness_i = \frac{OD_i + FGS_i}{maximum\ value} \times 100\%. \quad (3)$$

The Results and Discussions section contains a detailed discussion of this analysis, combined with qualitative and ordinal scale approaches, in identifying elements critical to achieving effective LTC systems in Malaysia.

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The last step is to recommend an LTC framework that consists of key elements for effective systems in Malaysia, which is explained in the Conclusion section.

Results and Discussions

As Malaysia is approaching an aged society in 2039, it is crucial to learn from the experiences of established countries like Australia, Germany, Japan, the UK, and the USA. Singapore and Thailand, Malaysia's neighbouring countries, are also included for meaningful comparisons. To assess the efficiency of the LTC systems within the selected countries, this research utilises equation (3), the sum of organisational depth and financial generosity and sustainability, divided by the maximum value. The effectiveness of each country is displayed in Figure 4.

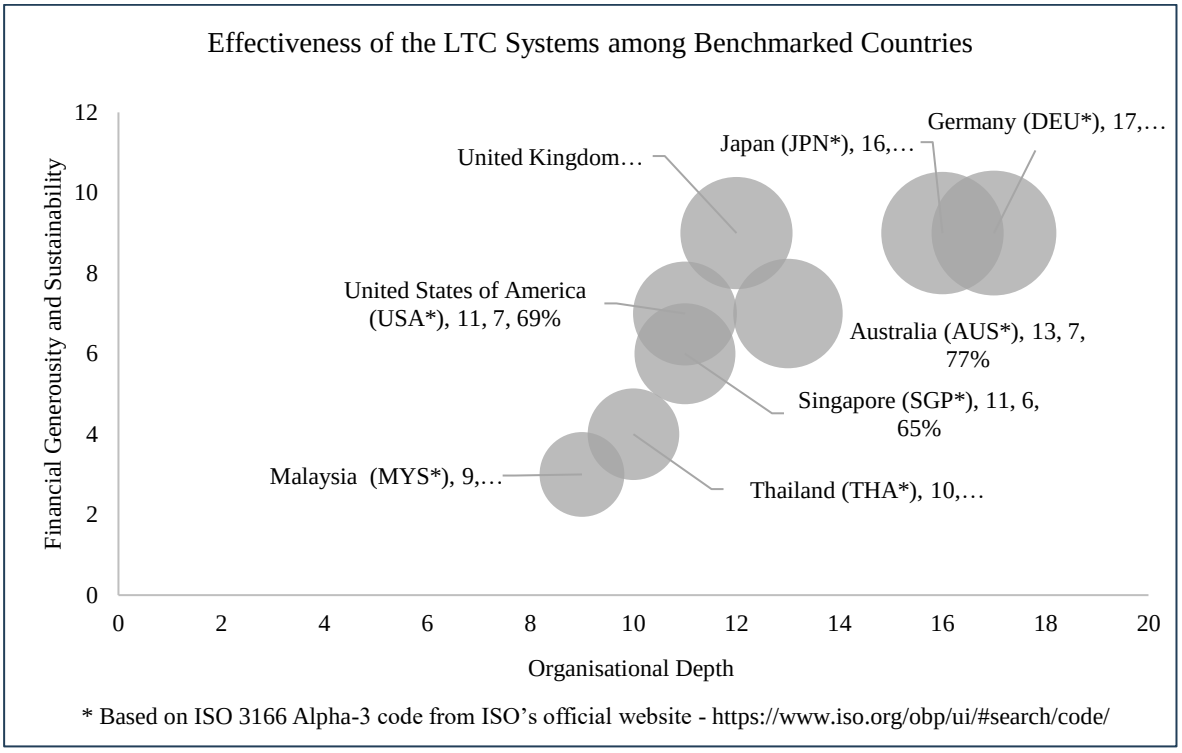

Figure 4: Effectiveness of the LTC Systems

Based on Figure 4, the most effective LTC system is Germany, with a 100% score, followed by Japan (96%), the UK (81%), Australia (77%), the USA (69%), Singapore (65%), Thailand (54%) and Malaysia (46%), the lowest effective LTC systems. As the Malaysian population is rapidly ageing, examining these selected countries as a benchmark for LTC will definitely help to improve current policies and practices. Germany and Japan have very structured LTC systems that impose mandatory insurance coverage, and the systems are separated from general health services. Social insurance represents an equitable and efficient means of funding LTC as dedicated contributions and benefits are payable, promoting greater disclosure and transparency. To implement social insurance eligibility, the entitlements must be prescribed in detail. Additionally, social insurance provides a way to include both public and private entities and gives due regard to the community-based model. This suggests that Malaysia can consider a modified form of social insurance to suit the current economic development. Moreover, the effectiveness of the LTC systems is supported by the ordinal scale of organisational depth and financial generosity and sustainability, as summarised in Table 5 below.

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Table 5: Ordinal Scale of Organisational Depth (OD) and Financial Generosity and Sustainability (FGS)

	MYS	AUS	DEU	JPN	SGP	THA	GBR	USA
OD	**9**	**13**	**17**	**16**	**11**	**10**	**12**	**11**
LF	1	2	2	2	1	2	2	2
PO	2	2	3	3	2	2	1	1
PA	1	2	3	3	2	1	2	2
MTA	1	1	2	2	1	1	1	1
Ent	1	2	3	3	2	1	2	2
CB	2	2	2	1	1	2	2	1
CoP	1	2	2	2	2	1	2	2
FGS	**3**	**7**	**9**	**9**	**6**	**4**	**9**	**7**
FM	1	2	2	2	2	1	2	2
CS	1	2	2	2	2	2	2	2
Exp (% GDP)	1	3	5	5	2	1	5	3
TOTAL	**12**	**20**	**26**	**25**	**17**	**14**	**21**	**18**
Effectiveness (total/max value)	**46%**	**77%**	**100%**	**96%**	**65%**	**54%**	**81%**	**69%**

Malaysia scored lowest on the scale due to deficiencies in eight variables. These include the absence of a dedicated act, operating under a minimal legal approach, implementing strict means-tested assessment, having a limited scope of coverage, limited choice of service providers, limited financing mechanism, lacking a cost-sharing element, and having insignificant LTC expenses. These shortfalls expose the system to the risk of discontinuation of services and the unsustainability of financing.

Thailand's effectiveness is slightly higher than Malaysia's, mainly due to the existence of the Elderly Act, established in 2003, that provides legal recognition of elderly rights and specialised protection. Note that Thailand promoted the community-based model. However, it did not change the value of the choice of provider given that society's involvement is voluntary, unlike Australia, Germany, Japan, the UK, and the USA. Furthermore, these countries recognise and work towards public-private arrangements to improve the access and effectiveness of LTC systems. As a result, the imposition of mandatory LTCI has forced both public and private entities to work together to ensure the success of LTC systems as adopted by both Germany and Japan. Additionally, the amount and contribution rate to the LTCI scheme also plays a significant factor, as this will ensure the sustainability of the LTC expenses. Another key element is the establishment of a dedicated centre of administration to monitor the implementation of the LTC programmes. The absence of these variables indicates that Malaysia can improve the effectiveness of current LTC programmes by establishing a centralised administration centre and means-tested assessment framework, widening the scope of LTC services, acknowledging the private and community care services, and widening the source of financing mechanism and scope of cost-sharing to include involvement from private entities. Accordingly, this will enable a wider scope of benefits to be provided and reach more participants.

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It was also observed that the mean for organisational depth and financial generosity and sustainability typologies was 12.4 and 6.8, respectively, and there is a positive relationship between these two typologies with a value of 0.89. Based on this result, it can be concluded that financial generosity and sustainability are higher when organisational depth is wider. The detailed statistical analysis and correlation between these variables are provided in Table 6 and Table 7 below.

Table 6: Descriptive Analysis of Each Variable

	OD	LF	PO	PA	MTA	Ent	CB	CoP	FGS	FM	CS	Exp
Mean	12.4	1.8	2.0	2.0	1.3	2.0	1.6	1.8	6.8	1.8	1.9	3.1
Standard Error	1.0	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.8	0.2	0.1	0.6
Median	11.5	2.0	2.0	2.0	1.0	2.0	2.0	2.0	7.0	2.0	2.0	3.0
Mode	11.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	9.0	2.0	2.0	5.0
Standard Deviation	2.8	0.5	0.8	0.8	0.5	0.8	0.5	0.5	2.3	0.5	0.4	1.7
Sample Variance	8.0	0.2	0.6	0.6	0.2	0.6	0.3	0.2	5.4	0.2	0.1	3.0
Kurtosis	(0.6)	0.0	(0.7)	(0.7)	0.0	(0.7)	(2.2)	0.0	(0.9)	0.0	8.0	(1.8)
Skewness	0.8	(1.4)	0.0	0.0	1.4	0.0	(0.6)	(1.4)	(0.6)	(1.4)	(2.8)	(0.0)
Range	8	1	2	2	1	2	1	1	6	1	1	4
Minimum	9	1	1	1	1	1	1	1	3	1	1	1
Maximum	17	2	3	3	2	3	2	2	9	2	2	5
Sum	99	14	16	16	10	16	13	14	54	14	15	25
Count	8	8	8	8	8	8	8	8	8	8	8	8

Table 7: Correlation between Variables

	OD	LF	PO	PA	MTA	Ent	CB	CoP	FGS	FM	CS	Exp
OD	1.00											
LF	0.52	1.00										
PO	0.67	0.00	1.00									
PA	0.94	0.41	0.50	1.00								
MTA	0.90	0.33	0.82	0.82	1.00							
Ent	0.94	0.41	0.50	1.00	0.82	1.00						
CB	(0.09)	0.15	0.00	(0.37)	(0.15)	(0.37)	1.00					
CoP	0.63	0.33	0.00	0.82	0.33	0.82	(0.45)	1.00				
FGS	0.82	0.60	0.16	0.90	0.60	0.90	(0.21)	0.87	1.00			
FM	0.63	0.33	0.00	0.82	0.33	0.82	(0.45)	1.00	0.87	1.00		
CS	0.48	0.65	0.00	0.53	0.22	0.53	(0.29)	0.65	0.65	0.65	1.00	
Exp	0.84	0.58	0.22	0.88	0.67	0.88	(0.10)	0.76	0.97	0.76	0.50	1.00

In conclusion, five variables can be further improved in the Malaysian context: expanding the entitlement or the coverage scope to include the whole B40 segment, application of established means-tested assessment framework, broadening the choice of provider to include private entities or community involvements, creating a centralised administration, and incorporating private entities into the financing mechanism to ensure the long-term viability of LTC systems' funding. Figure 5 presents the recommendations for the Noorlianni, Syazreen and Shamshimah (NSS) LTC framework for an efficient system in Malaysia.

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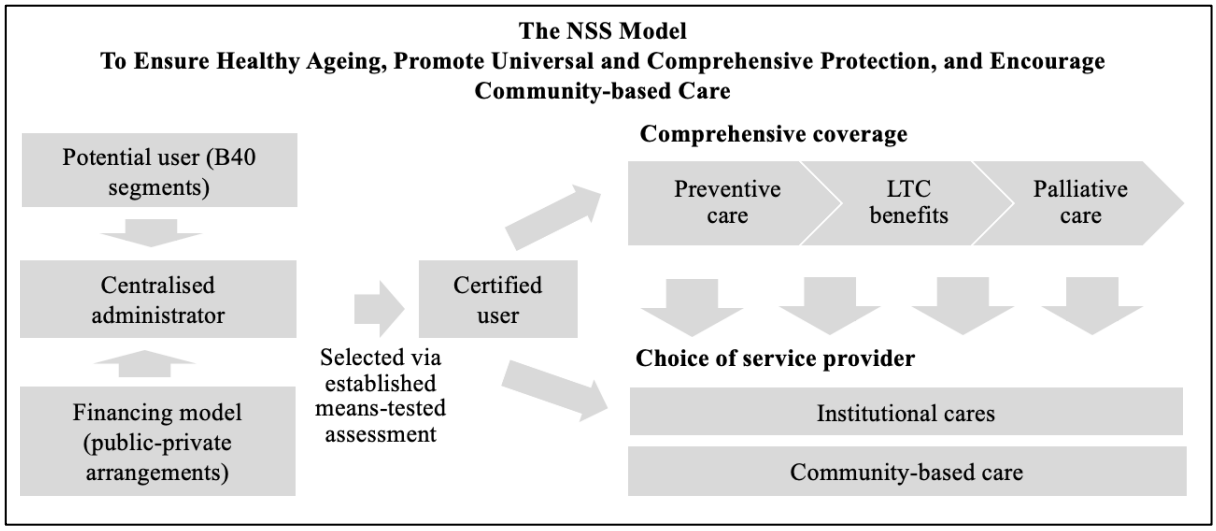

Figure 5: Foundation Framework for LTC Systems in Malaysia

Conclusions

In order to prepare Malaysia for the transition to an aged society by 2039, it is imperative that current LTC services be improved. The involvement of six distinct ministries and two departments, each with its own priorities and areas of interest, complicates the current environment. Furthermore, there is no single regulatory authority that manages LTC systems. Hence, achieving this policy goal may be challenging due to its complexity as well as the difficulty in promoting universal protection, maintaining healthy ageing, and providing enough resources and infrastructure. Additionally, both the capacity and the number of recipients in the current institutional care are restricted. As a result, within Malaysia's LTC systems, it is crucial to acknowledge and encourage social or community-based care. Note that there are five areas in need of improvement. Firstly, by including all B40 segments in the recipient pool, a minimal safety net for the elderly is ensured. Secondly, the establishment of a well-established means-tested evaluation is essential to upholding values of equity, transparency, and inclusivity. The third suggestion is acknowledging the community-based care paradigm and allowing freedom in selecting a service provider. Furthermore, the establishment of a centralised administration that provides a targeted strategy to expedite the installation of the LTC systems represents the fourth opportunity for improvement. Lastly, creating long-term financing sources, like public-private partnerships, is essential. Considering elements like population acceptance, awareness, and affordability, a corporate-backed approach might be more appropriate in Malaysia, even if LTCI has demonstrated effectiveness in other contexts. Therefore, using corporate social responsibility programmes to obtain a portion of the contribution from corporate organisations is one potential remedy. These suggested areas of development provide the framework for optimising Malaysian LTC systems.

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