

Optimal Aging: Create an Elderly-friendly Environment in Taiwan

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"Ageing is just another word for living."

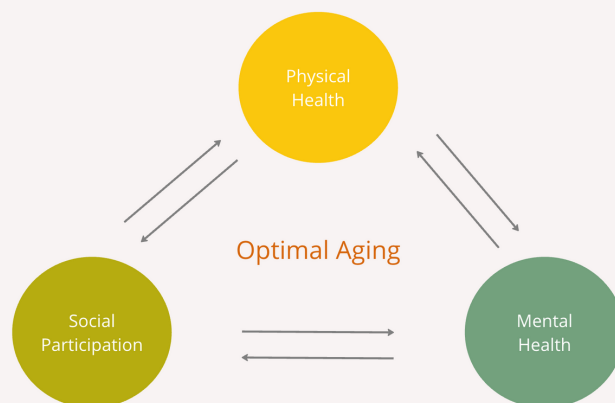
Overview

In this report, we aim to help the elderly in Taiwan achieve the goal of "Optimal Aging". Specifically, we provide a guide for elderly individuals, caregivers, government and NPOs on improving the quality of life for the elderly.

We use the iceberg model as the basis for our report (Figure 2). By reviewing the literature behind the events observed, we understand the patterns underlying these events. By combining this knowledge with insights from interviews, we create a systems map that clearly outlines the current structure and the mental models of various stakeholders.

Our goal is to help the elderly achieve better mental health, physical health, and social participation, and to that end, we conduct further analysis to identify potential solutions. These solutions can intervene in the current system, create levers of change, and ultimately help us achieve our vision.

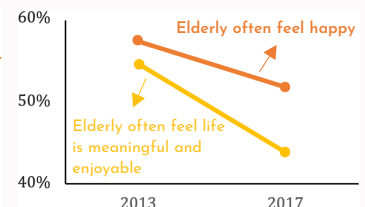
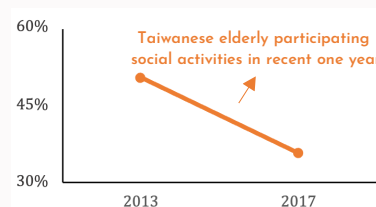
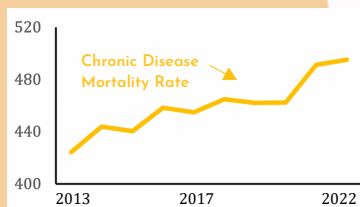
The report not only contributes to Taiwanese society but can be a demonstration for other regions in East Asia that faces similar problem and shares similar cultural background and societal structures. Eventually, we hope every elderly in the world can embrace the beauty in aging.



▲ Figure1 Optimal Aging

Iceberg Model

- 64.88% of the elderly in Taiwan suffer from chronic disease
- 13% of the elderly in Taiwan suffer from depression, and 73% of them never visit mental doctors
- 23.52% of the elderly in Taiwan feel difficulty in participating leisure activities and 64.34% of the elderly in Taiwan don't participate in social activities in recent one year



Events

Pattern

Structure

Mental Model

Vision

- The elderly lack the ability to take care of themselves not only makes them have poor health conditions but rely on family, and the medical system more.
- Under the health insurance system, the elderly have caused huge waste of medical resources, leading to unfair allocation of medical resources, and thus, some elderly do not receive proper treatment.
- Holding the misconception of mental diseases, the elderly are reluctant to visit doctors. Moreover, they often fail to express their feelings.
- Receiving low respect from young generations impact elderly's mental health
- Inconvenient, and unsafe environment decrease the willingness to go out
- Lack of economic security decrease the willingness to do social participation
- The elderly inclined to ask doctors for help
- Taiwanese society overvalue filial piety and often hold the perception that children need to take care of their parents
- Taiwanese society considers the elderly at a disadvantage.
- The elderly have been trapped by traditional concepts. They consider mental disorders as abnormal, and they have not been taught how to value and achieve mental health.
- The fear of falling and other accidents decrease the willing to go out
- As social participation is money-consuming, the idea of saving money discourage the elderly from going out
- Optimal Aging

▲ Figure2: Iceberg Model

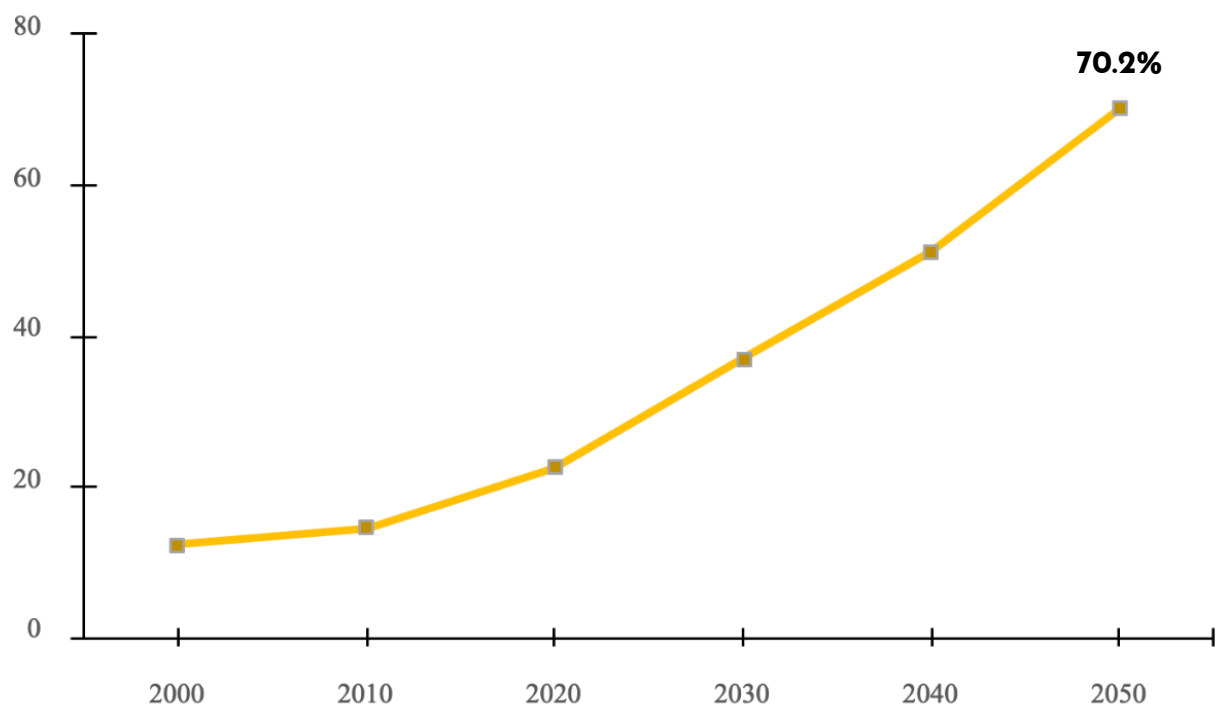
Introduction

Define the problem

Creating an elderly-friendly environment is a pressing global issue. The United Nations Population Fund has identified population aging as one of the most significant trends of the 21st century. According to the World Population Prospects: the 2019 Revision, by 2050, 1 in 6 people in the world will be over the age of 65 (16%), up from 1 in 10 in 2022 (10%).

Shifting our focus to Taiwan, it is worth noting that currently, 1 in 5.6 people in Taiwan are above 65 years of age, and within the next three years, Taiwan will become a super-aged society.¹ The population structure has changed dramatically over the years. The National Development Council of Taiwan predicts that the dependency ratio of the aging population and those in the labor force will grow from 25% in 2022 to 70% in 2050.²

Given that the elderly cannot rely solely on external support to live their lives, building an ecosystem that supports the elderly in achieving optimal aging and acquiring the ability to take care of themselves has become a critical challenge.



▲ Figure3: Old Age Dependency Ratio in Taiwan

¹ Population Division of the Department of Economic and Social Affairs of the United Nation. World Population Prospects 2022 Summary of Results https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

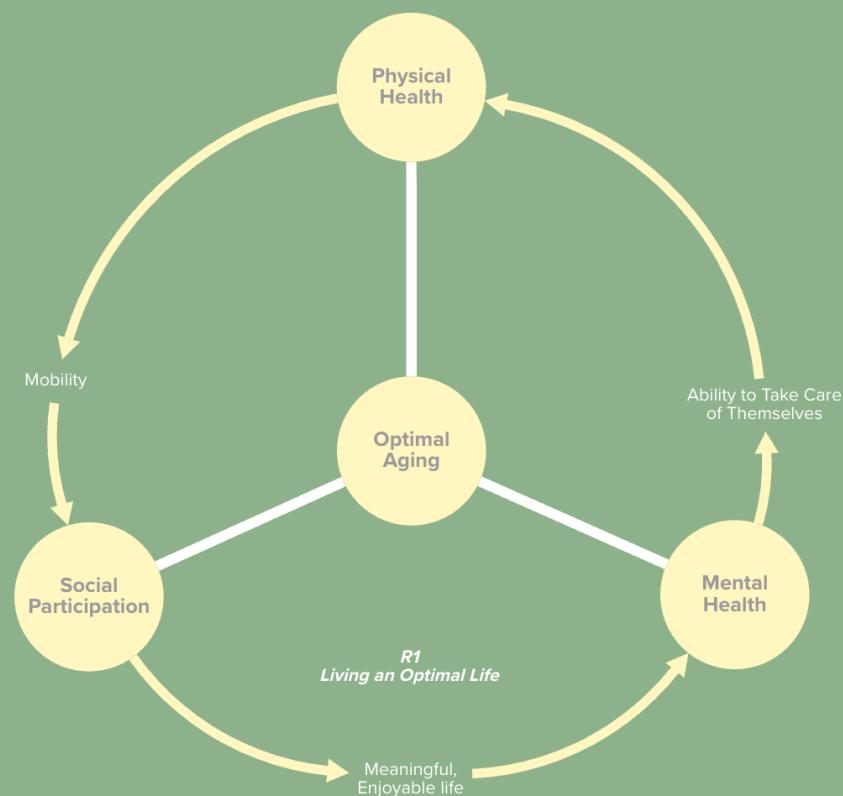
² National Development Council. (2022). 扶養比趨勢. https://www.ndc.gov.tw/Content_List.aspx?n=695E69E28C6AC7F3

Introduction

What is Optimal Aging

Optimal aging goes beyond good health and longevity. It deals with the capacity to function across many domains - physical, functional, cognitive, emotional, social, and spiritual - to one's satisfaction, despite any medical conditions one may have.³

In this project, we combined the physical and functional domains into 'physical health', the cognitive, emotional and spiritual domains into 'mental health', and the social domain as 'social participation'. It is important to note that these three dimensions are mutually affecting each other (Figure 4).



▲ Figure4: Core Loop of the System

³ Kenneth Brummel-Smith, MD. (2007). Optimal Aging, Part I: Demographics and Definitions. <https://www.hmpgloballearningnetwork.com/site/altc/article/7994>

Introduction

Status Quo- Taiwan, an aged society

Physical Health

In Taiwan, life expectancy in 2021 was 80 years, but healthy life expectancy was 7 years shorter, highlighting the gap between elders and healthy elders.⁴ According to a survey on self-reported health conditions among elders, nearly 20% reported bad or very bad health conditions.⁵ Furthermore, for those above 58 years of age, one in six had been hospitalized in the past year and one in five had been sent to the emergency room in the past year.⁶

Mental Health

Depression is the most common mental health issue among seniors. In Taiwan, the prevalence rate of depression among elders is around 13%. However, due to insufficient knowledge, unawareness of the disease, or misperception about mental health issues,⁷ only 27% of those affected visited mental health professionals for proper treatment, while in Europe, the U.S.A, and Japan, 40% of those affected sought help from professionals.⁸

The CES-D (Center for Epidemiological Studies Depression Scale) survey also showed that more than 10% of elders in Taiwan were at a high risk of depression.⁹

Social Participation

Taiwanese elders do not actively engage in social participation. Around 64.34% of the elderly in Taiwan do not participate in social activities for nearly a year. Also, only 4.88% of the seniors in Taiwan participated in learning activities over the past year.¹⁰

Research Method

Our research draws on literature, as well as insights gained from 25 semi-structured interviews with seniors, experts, and stakeholders at both state and local levels.

Additionally, we employ systems thinking approaches to explore the factors that may help or hinder the elderly in achieving optimal aging, and to map out the interaction of stakeholders, mental models, power dynamics, and structures that contribute to the persistence of this issue.

4 National Development Council Population Projections for the R.O.C. (Taiwan). <https://pop-proj.ndc.gov.tw/chart.aspx?c=10&uid=66&pid=60>

5 National Health Research Institutes and National Center for Geriatrics and Welfare Research. (2021). 高齡健康與長照服務年報- 65歲以上人口自述自覺健康狀況. https://ageing.nhri.edu.tw/annual_report/5WImSdB7LQ3ISBL3WmdH

6 National Health Research Institutes. (2018). Strategies for the Emerging Challenge of Health Care System in Aging Society - Toward Aging in Place. <https://forum.nhri.edu.tw/book-107-4/>

7 National Health Research Institutes and National Center for Geriatrics and Welfare Research. (2022). 自由健康網. <https://health.ltn.com.tw/article/breakingnews/4055375>

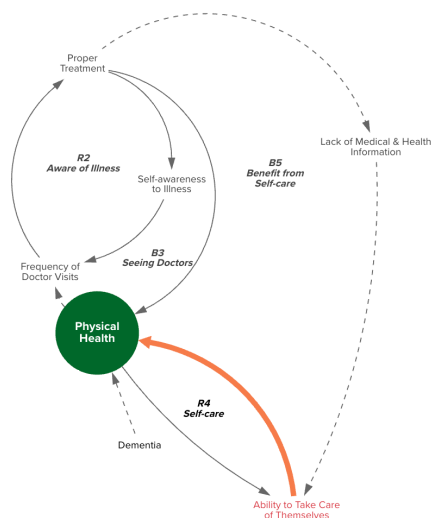
8 Science Direct. (2022). Barriers to depression care among middle-aged and older adults in Taiwan's universal healthcare system. <https://www.sciencedirect.com/science/article/pii/S266660652200116X>

9 林正祥, 陳佩含, 林惠生 (2010, December). 臺灣老人憂鬱狀態變化及其影響因子. Journal of Population Studies. <http://www.psc.ntu.edu.tw/jps/pub/41/assets/O2.pdf>

10 Ministry of Health and Welfare (2017). Report of the Senior Citizen Condition Survey 2017 <https://dep.mohw.gov.tw/DOS/lp-5095-113-xCat-y106.html>

Problem Landscape

Physical Health



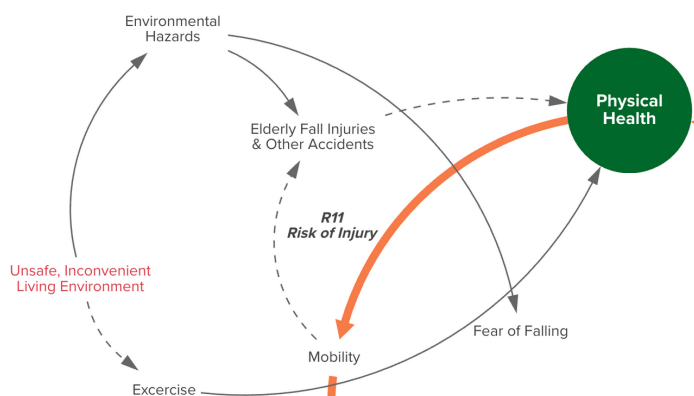
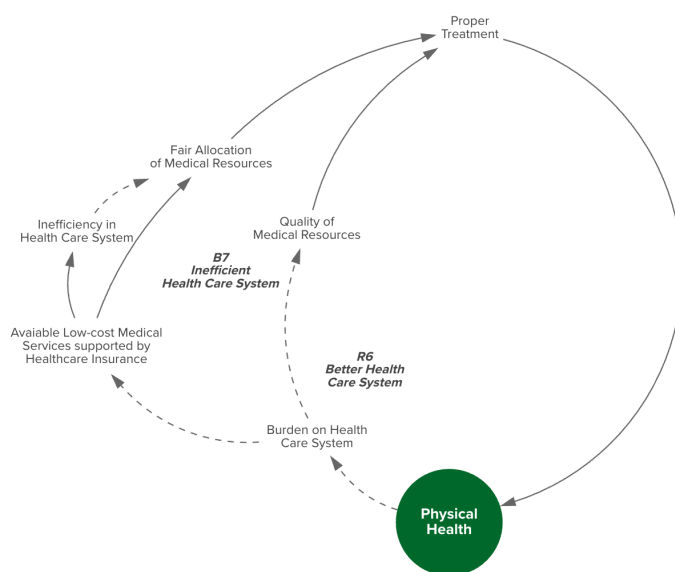
Inability to Take Care of Themselves Causes High Frequency of Doctor Visits:

Without the ability to take care of themselves, the elders visit doctors frequently to receive proper treatment.

Relying on Doctors Places Heavy Burden on Health Care System in Taiwan:

As the number of elders in society continues to increase, the use and cost of medical resources are inevitably rising. Moreover, the elderly overly rely on doctors to get proper treatment. In Taiwan, the 2019 report indicated that 1 in 6 elders above 58 stayed in the hospital in the past year.

This not only places a heavy burden on the health care system in Taiwan but also deprives the opportunity for elders to develop the ability to take care of themselves.



An Unsafe Environment Causes The Elderly Encounter Accidents:

In Taiwan, according to the report of the Health Promotion Administration, showed that falling was the second leading accidental cause of death among people over 65, with a rate of 25.7 per one million people.¹² Falls or other accidents can result in the loss of mobility function for elderly individuals and often lead to physical disabilities. These accidents are often caused by unsafe environments around them.

11 National Health Research Institutes. (2018). Strategies for the Emerging Challenge of Health Care System in Aging Society - Toward Aging in Place. <https://forum.nhri.edu.tw/book-107-4/>

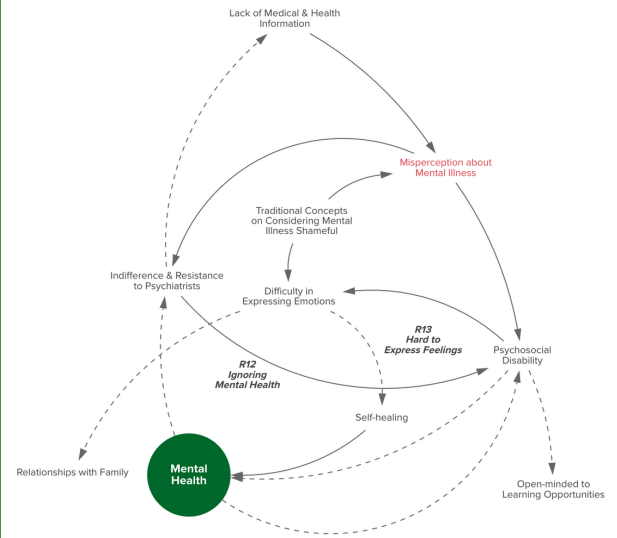
12 Health Promotion Administration, Ministry of Health and Welfare. (2019). 老人跌倒的問題有多嚴重?. <https://www.hpa.gov.tw/Pages/Detail.aspx?nodeid=807&pid=4326>

Problem Landscape

Mental Health

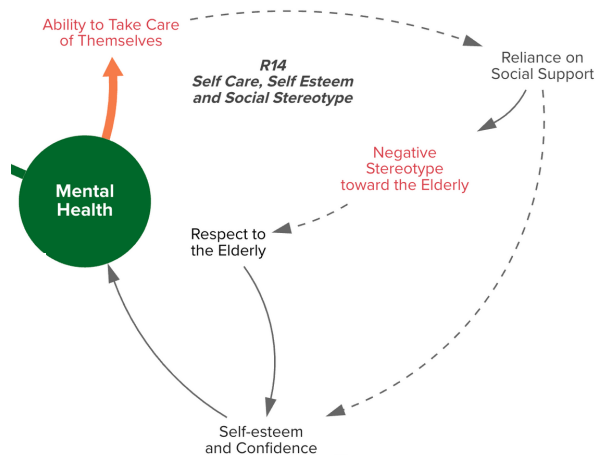
Traditional Concepts toward Mental Illness Deters The Elders From Proper Treatment:

Misconceptions about mental illness prevent many elderly individuals from seeking proper treatment. In Taiwan, 73% of elders with depression do not seek medical help, worsening their condition. Elders' difficulty expressing their emotions also hinders them from developing the ability to self-heal.



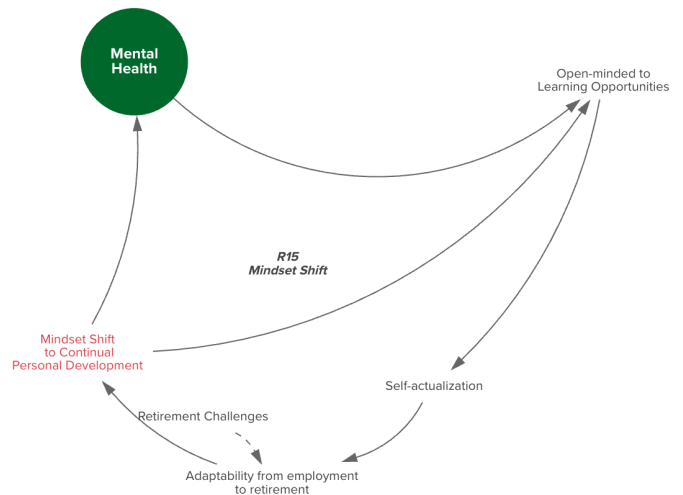
Social Stereotypes toward the Elders Causes Low Self-Esteem and Confidence:

Negative stereotypes, such as regarding elders as disadvantaged, reduce their confidence and self-esteem, leading them to rely more on social support. This reinforces social stereotypes and further worsens their mental health. Lower self-esteem and confidence also make them hesitant to grasp learning opportunities, which are important for leading meaningful and enjoyable lives.



Retirement Challenges Causes The Elders Hard to Adapt to the Transition:

Retirement is a big change in one's life, and many elders encounter challenges in adapting to the transition from employment to retirement, which deters them from being open-minded to learning opportunities. Plus, it's not common for the elderly in Taiwan to get back to workplaces. The labor force participation rate of those above 65 is 9.2%, which is far lower than in other countries with an 18-37% labor force participation rate.¹³



13 Ministry of Labor. (2021). 110 年中高齡及高齡(45 歲以上)勞動狀況.

<https://www.mol.gov.tw/media/01yIqOhe/110%E5%B9%B4%E4%B8%AD%E9%AB%98%E9%BD%A1%E5%8F%8A%E9%AB%98%E9%BD%A1-45%E6%AD%B2%E4%BB%A5%E4%B8%8A-%E5%8B%9E%E5%8B%95%E7%8B%80%E6%B3%81.pdf?mediaDL=true>

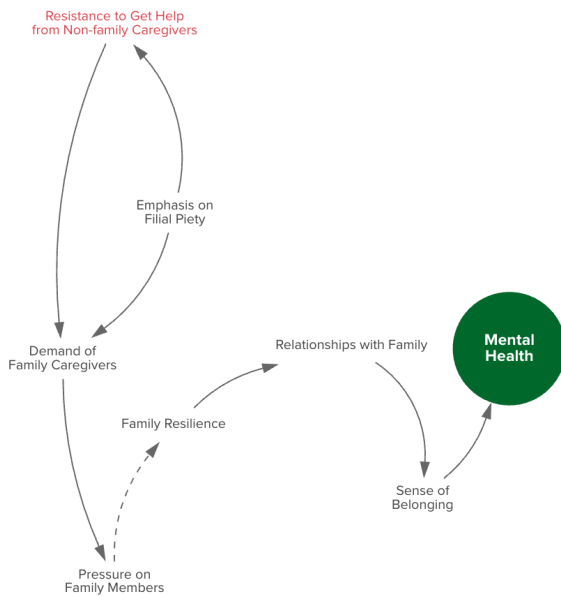
Problem Landscape

Social Participation

Overly Emphasize Filial Piety Causes Pressure on Family Caregivers:

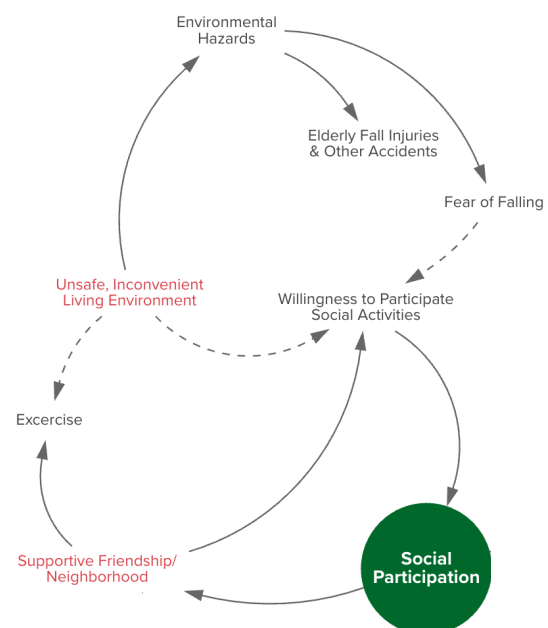
For the current generation of elders in Taiwan, relying on non-family caregivers is uncommon. Their children, who are now 50 to 60 years old, also believe it's their responsibility to care for their parents. However, the dependency ratio has been rising since 2012, leading to inevitable increasing demand for family caregivers.

In Taiwan, 49.22% of family caregivers provide care individually without rotating with others, and nearly 200,000 low and middle-low-income elderly rely on allowances, resulting in low economic security.¹⁴ This puts pressure on family, reduces family resilience, and deprives elders of the opportunity to develop self-care skills.



Environmental Hazards Causes The Elders' Fear of Participating in Social Activities:

In Taiwan, the report in 2017 showed that around 74% of the elders live in apartments without an elevator.¹⁵ Environmental hazards make the elders overly worried about accidents and thus reluctant to go out and participate in social activities.

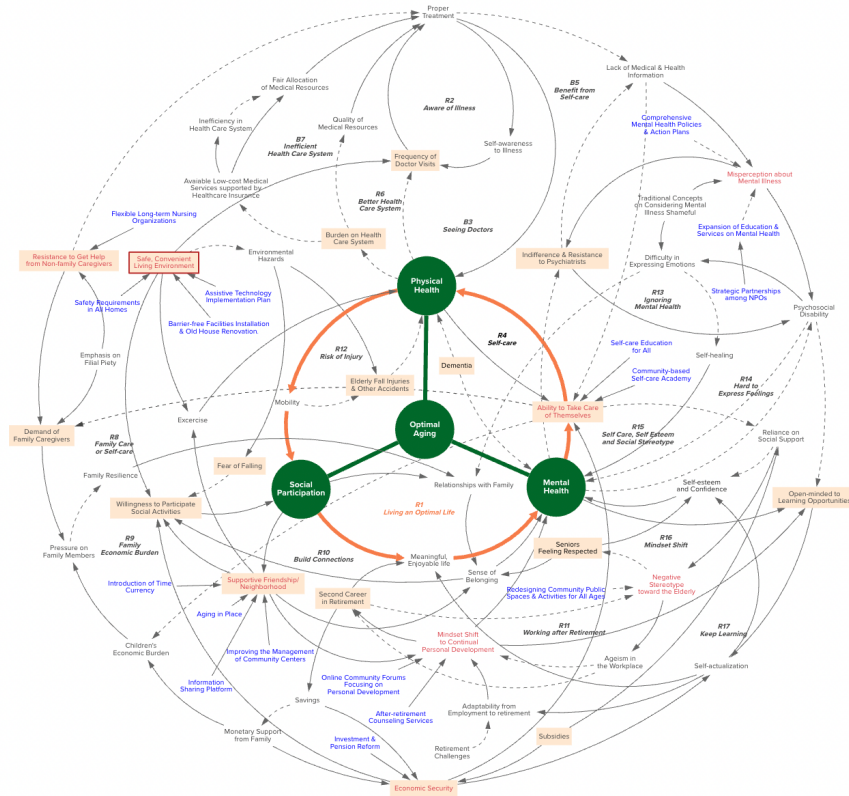


¹⁴ National Development of Council. (2021). 我國老年經濟安全制度概況. https://www.ndc.gov.tw/Content_List.aspx?n=81DB8FFA63C8F95A

¹⁵ Ministry of Health and Welfare (2017). Report of the Senior Citizen Condition Survey 2017. <https://dep.mohw.gov.tw/DOS/lp-5095-113-xCat-y106.html>

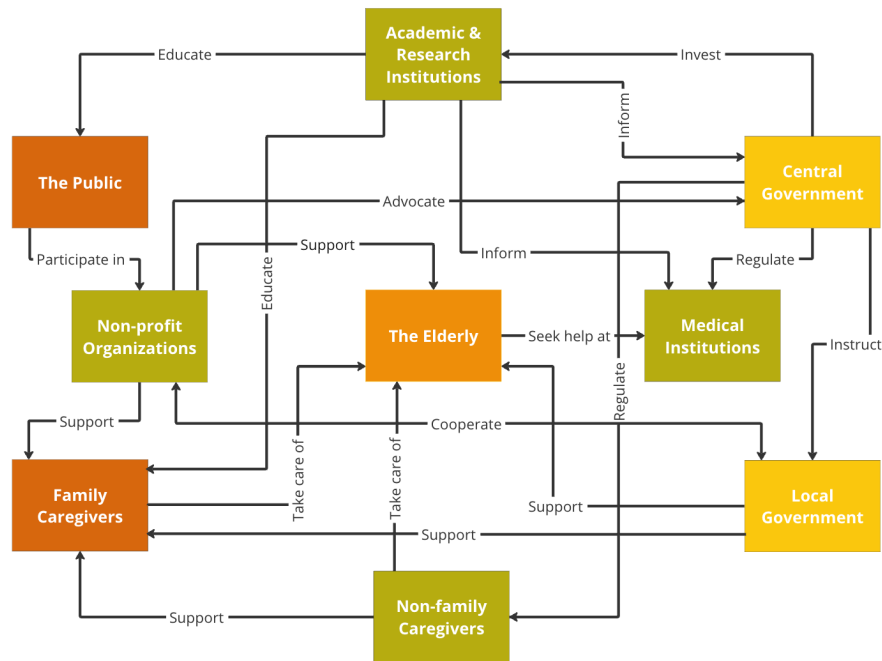
Problem Landscape

Full Systems Map



▲ Figure 5: Systems Map

Power Dynamics



▲ Figure 6: Stakeholder Map

Solution Landscape

Lever Ability to Take Care of Themselves

Local	International
<p>Bodhi Evergreen Village¹⁶ :</p> <p>The village transforms the elderly from the role of being cared for to caring for each other.</p>	<p>Home care services (Finland)¹⁸ :</p> <p>In Finland, municipalities organize many services for the elderly to make their lives easier and to enable them to live in their own homes for as long as possible.</p>
<p>Home for the Elderly in Central District¹⁷ :</p> <p>Run by the Ministry of Health and Welfare, the institution implements “The Self-reliance Support and Care Model” which emphasizes improving the self-care ability of the elders.</p>	<p>International Council on Active Aging (Global)¹⁹ :</p> <p>Its program provides resources and educational materials to help older adults stay active and engaged in their communities by building self-care skills.</p>

Lever Misperception about Mental Illness

Local	International
<p>Senior Welfare Act²⁰ :</p> <p>The act requires the health authority concerned to be responsible for supervising plans related to elderly preventive care, mental health, medical treatment, recovery, and continuous care.</p>	<p>Program to Encourage Active, Rewarding Lives (U.S.A)²² :</p> <p>The treatment program teaches elders with depression how to cope with the disease by holding sessions in an elder’s home or community-based settings for accessibility and comfort.</p>
<p>Yang Sheng Foundation²¹ :</p> <p>The foundation educates the elders’ self-healing ability by holding courses regarding mindfulness practices to reduce stress and anxiety.</p>	<p>Comprehensive Mental Health Action Plan 2013-2030 (Global)²³ :</p> <p>The latest action plan for dealing with mental health was published by the World Health Assembly of W.H.O. in 2021.</p>

¹⁶ Bodhi Evergreen Village. <https://www.ptev.org.tw>

¹⁷ Home for the Elderly in Central District, the Ministry of Health and Welfare. 生活照顧 <https://crsch.mohw.gov.tw/archive?uid=86>

¹⁸ infoFinland.fi. <https://www.infofinland.fi/en/family/elderly>

¹⁹ International Council on Active Aging. <https://www.icaa.cc>

²⁰ Yang Sheng Foundation. <https://www.ysfoundation.org.tw/YS-course.aspx>

²¹ Laws & Regulations Databases of The Republic of China (Taiwan). (2020). Senior Citizens Welfare Act. <https://reurl.cc/7RzZ6k>

²² Health Promotion Research Center, University of Washiton. Programs to Encourage Active, Rewarding Lives. <https://reurl.cc/OVK2x9>

²³ World Health Organization. (2021). Comprehensive Mental Health Action Plan 2013-2030. <https://www.who.int/publications/i/item/9789240031029>

Solution Landscape

Lever Negative Stereotypes toward the Elderly

Local	International
<p>青銀有約：TIFA看戲特別企劃²⁴ Intergenerational Workshop： The course is open for students in universities and the elderly. Through acting, they share their thoughts and expectations toward life.</p>	<p>街 ing 本鄉, Home Share Program (Japan) ²⁶ The program that encourages the elderly living alone in Tokyo to rent their houses to students studying in Tokyo with cheap rent. Students and the elderly take care of each other and live together.</p>
<p>Yangming Senior Apartment ²⁵ The senior apartment is open for students in universities to rent. Students have to spare 20 hours per month accompanying the elderly. For example, teaching the elderly how to use 3C products.</p>	<p>Geku-Haus Apartment (Germany) ²⁷ Residents in this apartment are 20-40 years old, and the oldest is over 70. The elderly give young people career advice based on their professional experience in the past, and there's a lounge floor open for the two generations.</p>

Lever Mindset Shift to Continual Personal Development

Local	International
<p>Middle-aged and Elderly Employment Promotion Act ²⁸ The government encourages the elderly to join the labor market by setting up Workforce Development Service Centers to provide relevant services.</p>	<p>Labor Standards Act (Japan) ³⁰ Japan revised the Labour Standards Act in 2021, requiring companies to retain their employees until they reach the age of 70.</p>
<p>Live Life At Its Best ²⁹ The program recruits and trains the elderly to become "granfluencers".</p>	<p>3rd Act Magazine (U.S.A.) ³¹ The magazine inspires and entertains the elderly with articles offering dynamic new perceptions toward aging.</p>

24 National Theater & Concert Hall. (2022). 在表演藝術的想像世界，找到對話的可能性——陳懷萱、許華倚談青銀共創 <https://shorturl.at/xlK68>

25 Yangming Senior Apartment. <http://yangming.hangan.org/%e9%97%9c%e6%96%bc%e6%88%91%e5%80%91/>

26 街 ing 本鄉. <https://m-hongo.com/#>

27 Geku-Haus. <https://www.geku-haus.de/en>

28 Senior Workforce Resources Website. (2023). <https://swd.wda.gov.tw/eng/index.php?code=list&ids=117>

29 Live Life At Its Best. <https://www.seniorkol.com.tw>

30 Japanese Law Translation. Labor Standard Act <https://www.japaneselawtranslation.go.jp/en/laws/view/3567/en>

31 3rd Act Magazine- Aging with Confidence. <https://www.3rdactmagazine.com/>

Solution Landscape

Lever Supportive Friendships and Neighborhoods

Local	International
<p>Zhenjixiang Association Comprehensive Elderly Care :</p> <p>Establish a happy living area for the elderly in the community, provide meals, healthcare and courses for them, and promote emotional exchanges between the neighbors.</p>	<p>Gospel Home Care Association (Singapore)³⁴: Through the "Neighborhood Mutual Aid Program", neighbors pay to take care of the vulnerable elderly around them, and avoid sending the elderly to nursing homes, which may cut off their connection with the community.</p>
<p>Community colleges³³ :</p> <p>Community colleges are primarily designed for lifelong learning among adults. These institutions also serve as social hubs for the elderly.</p>	<p>Good Neighbors of Park Slope (U.S.A)³⁵ :</p> <p>Provide residents with different types of social activities at a reasonable price, fostering social connections and community involvement.</p>

Lever Unsafe, Inconvenient Living Environment

Local	International
<p>Barrier-free residential design benchmarks and incentives³⁶ :</p> <p>This regulation regulates the barrier-free facilities of new buildings and rewards the addition of barrier-free facilities in old houses.</p>	<p>Safer & Stronger Communities(U.K)³⁸ :</p> <p>Telford & Wrekin Council launched the project in 2021 with support from the Police & Crime Commissioner to help residents feel safer in their homes and communities.</p>
<p>House Improvement Aid³⁷ :</p> <p>Provided by the Alliance for Senior Welfare, aim to make up for the lack of government subsidies.</p>	<p>Universal Design (Japan and Global)³⁹ :</p> <p>Universal Design aims to design buildings and public spaces to be accessible and usable by people of all ages and abilities.</p>

32 The Mustard Seed Mission. (2017). 翻轉南機場——臻信祥協會全方位老人照護 https://ms-community.azurewebsites.net/foodbank_nanairport/

33 Community Colleges' Web of Taipei. <https://www.ccwt.tp.edu.tw/cht/index.php?>

34 Gospel Home Care Association. <http://www.concernandcare.com.tw/page/about/index.aspx?kind=3&lang=TW>

35 Good Neighbors of Park Slope. <https://www.goodneighborsofparkslope.org>

36 Construction and Planning Agency, Ministry of the Interior. (2021). 無障礙住宅設計基準及獎勵辦法. <https://reurl.cc/RvMnLr>

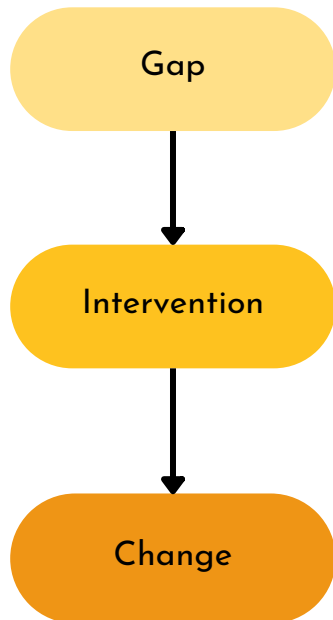
37 The Alliance for Senior Welfare. (2023). 住宅修繕申請說明. <https://www.oldpeople.org.tw/pop/pages/5d9ab015352b4c10b23073fac3a3550f>

38 Telford & Wrekin Council. (2023). Safer & Stronger Communities. https://www.telford.gov.uk/info/21855/safer_and_stronger_communities

39 What is Universal Design. <https://reurl.cc/LNGj5y>

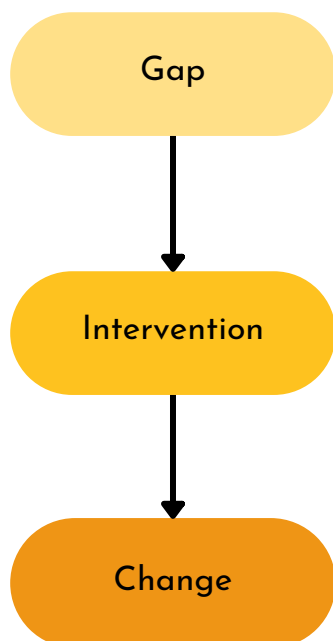
Gaps, Levers of Change, and Intervention

Lever Ability to Take Care of Themselves



- Mainly healthy and well-educated elderly develop the ability of self-care.
- The promotion of the concept is insufficient.
- Community-based academies teaching self-care.
- Self-care education for all, promoting the importance of cultivating the self-care ability of the elderly.
- Cultivate the ability to take care of themselves and be recognized by the public

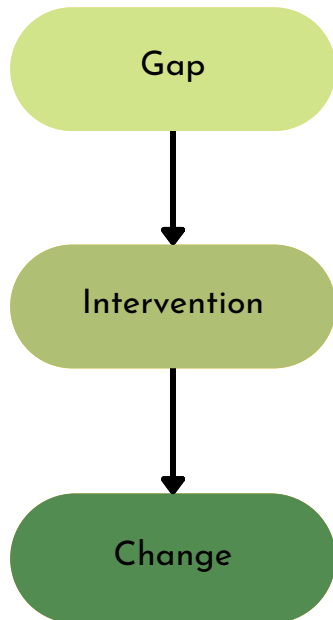
Lever Misperception about Mental Illness



- Lack of promotion and limited resources in rural areas results in the bounded reach of the elderly.
- Lack of concrete policies and specific measures but only general guidelines.
- Strategic partnerships among NPOs to strengthen mental health care in rural communities.
- Comprehensive policies that cover both prevention and cure of mental health.
- The elderly value the importance of mental health.

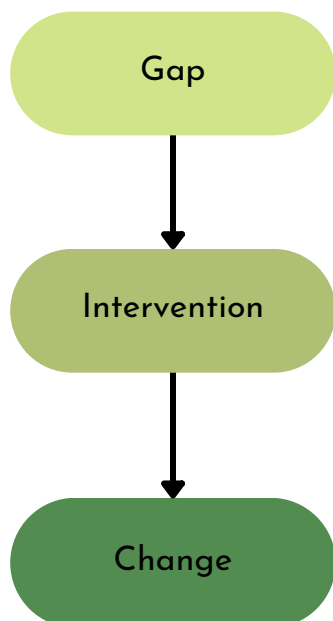
Gaps, Levers of Change, and Intervention

Lever Negative Stereotypes toward the Elderly



- Few programs include other generations but are designed for the elderly only.
- Intergenerational programs are deliberately designed for young generations to finish pre-designed tasks or happen only once.
- Redesigning community public spaces and activities suitable for all ages, letting intergenerational interaction and communication happen naturally and sustainably in every community.
- Mutual understanding across generations & Intergenerational prosperity

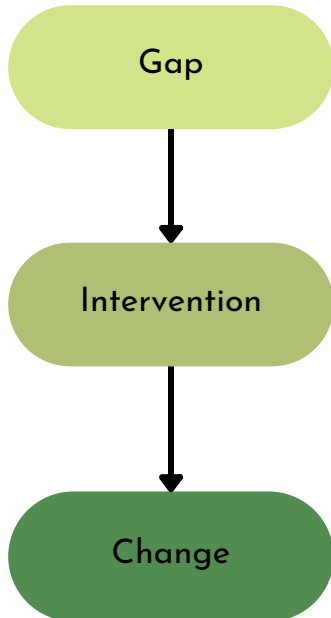
Lever Mindset Shift to Continual Development



- Lack of resources for after-retirement plans
- Lack of an environment that encourages elderly re-employment.
- After-retirement counseling services or online communities for retired people and the elderly to seek advice.
- Customized job positions for the elderly.
- The elderly create their meaningful third act and feel self-worth.

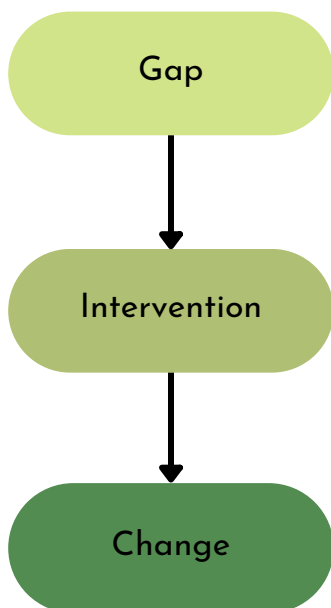
Gaps, Levers of Change, and Intervention

Lever Supportive Friendships and Neighborhoods



- Access to information on social participation is inadequate
- Insufficient labor support for holding social activities
- Nursing homes do not fit the elderly's social needs.⁴⁰
- Improvement in the management of community activities and centers.
- Introduction of time currency for local communities and optimization of community life circle for aging in place.
- Build information sharing platforms.
- No longer stay home alone all day
- Increase social participation and social belongings.

Lever Unsafe, Inconvenient Living Environment

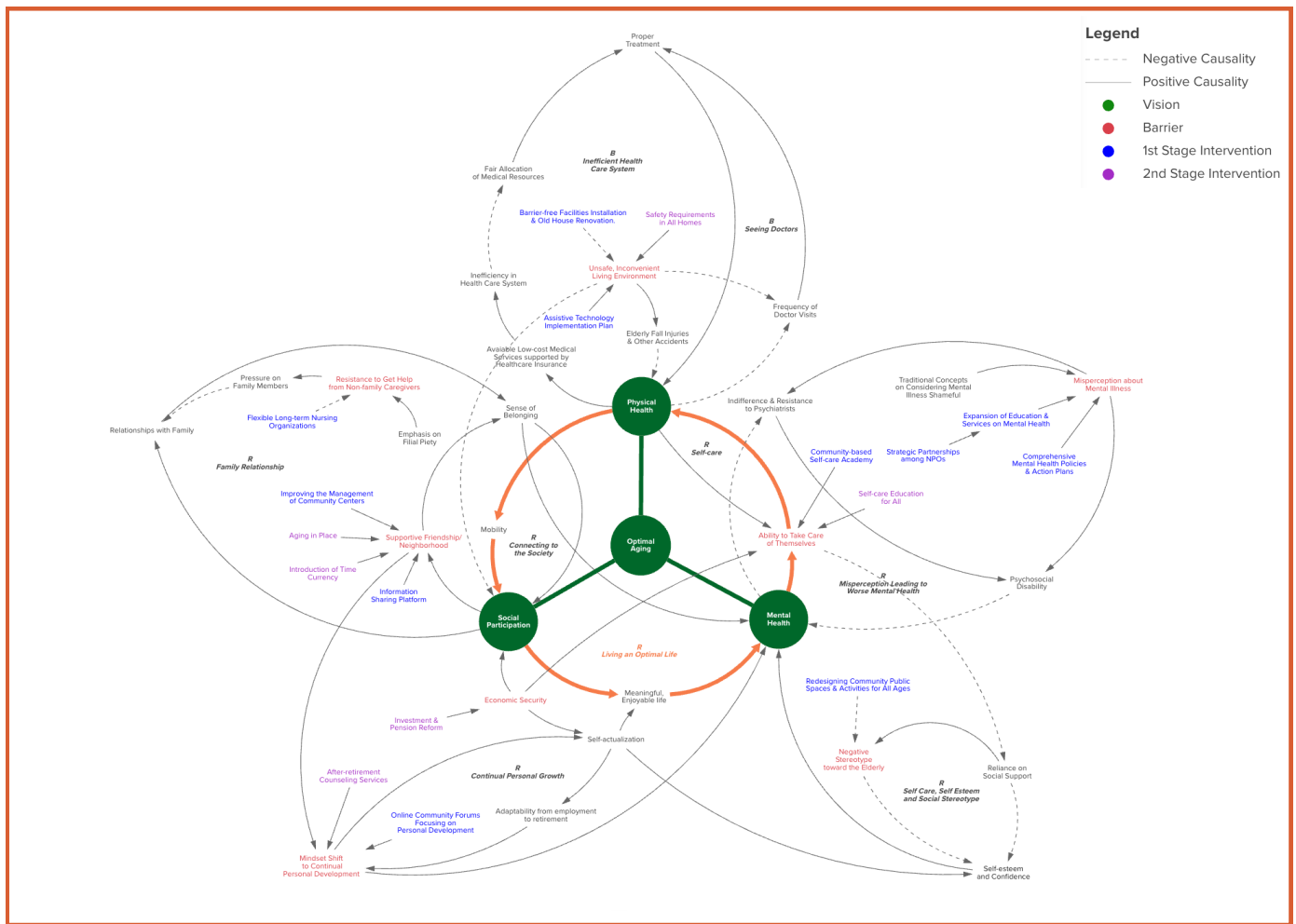


- The elderly lack money for old house maintenance and the installation of barrier-free facilities.⁴¹
- It's difficult for apartment buildings to obtain a consensus among all residents as the law requires.⁴²
- Provide more aid for barrier-free facility installation and old house renovation.
- Mandate necessary safety facilities for all houses.
- Develop an assistive technology implementation plan.
- Age-friendly space at home and outside the home.

40 蔡英儀、許雅娟、楊燦。(2012). An Investigation of the Relationships between Physical Function, Social Activity and Loneliness of the Elderly Living in the Nursing Homes. <http://ir.meiho.edu.tw/bitstream/987654321/2359/2/護理之家老人身體功能、社會活動與孤寂感之相關因素研究.pdf>

41 The Alliance for Senior Welfare. (2023). 住宅修繕申請說明. <https://www.oldpeople.org.tw/pop/pages/5d9ab015352b4c10b23073fac3a3550f>

42 Taipei City Urban Regeneration Office. (2016). 北區-老舊公寓加裝電梯常見問題與探討 https://twur.cpami.gov.tw/resources/website/activity_extra/assist/84/1040126北區-老舊公寓加裝電梯常見問題與探討.pdf



▲ Figure 7: Theory of Change

Figure 7 shows the theory of change. To encourage stakeholders to involve in creating the elderly-friendly environment to achieve the long-term, mutual goal of the society, "Optimal Aging", we organize the proposed solutions for each lever and formulate a two-stage strategy.

The first stage includes solutions that is implementable in short-term and have immediate effects. In the second stage, we contain more solutions that require more stakeholders' assistance but can help build a sustainable elderly-friendly environment.

Implementing the interventions is the key to change the system dynamics. What's more, this helps the entire society foster economic prosperity and social prosperity.

Key Insights & Conclusion

Here are the 4 key insights we found:

1 Self-care is crucial

This creates a positive reinforcing loop and reduces their dependence on others, supporting themselves, and benefiting both their family and the healthcare system.

2 Optimal aging is reached if and only if seniors know their worth

To keep seniors involved in the society and have the best quality of life, helping the elderly build self-worth is crucial. In this way, they can have better, positive interactions with the society.

3 The stereotype toward the elderly threatens their mental health

The stereotype that the elders are disadvantaged in the Taiwanese community makes the general public not treat the elders equally. This in turn affects how the elderly regard themselves, for example, not capable of doing anything, and their mental health.

4 Transforming the support system into a robust and resilient foundation for the society

We should ensure sufficient labor inputs and financial stability in order to scale up and sustain the support system.

In conclusion, the elders play a core role in this system. The elderly should learn to take care of themselves and value themselves, changing the system dynamics; with the help from other stakeholders, they ultimately can achieve the shared vision: "optimal aging".



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