



# SITUATION OF THE THAI ELDERLY 2016

สถานการณ์ผู้สูงอายุไทย พ.ศ. ๒๕๕๙



สถานการณ์ผู้สูงอายุไทย พ.ศ. ๒๕๕๙



มูลนิธิสถาบันวิจัยและพัฒนาผู้สูงอายุไทย  
(มส.ผส.)

1168 ซอยพหลโยธิน 22 แขวงจอมพล  
เขตจตุจักร กรุงเทพมหานคร 10900  
โทรศัพท์ 0-2511-4963 โทรสาร 0-2511-4962

**Foundation of Thai Gerontology Research  
and Development Institute (TARI)**  
Phahon Yothin 22, Chom Phon,  
Chatuchak, Bangkok 10900  
Tel +66-2511-4963 Fax +66-511-4962

[www.thaitgri.org](http://www.thaitgri.org)



ปก : นายเสนาะ อุณาภูล, ผู้สูงอายุแห่งชาติ ประจำปี พุทธศักราช 2559  
COVER : Snoh Unakul, The Honorary Senior Fellow of 2016





## Preface

Issuing of this Report on the Situation of the Thai elderly is the responsibility of the National Committee on the Elderly (NCE) as mandated in the 2003 Act on the Elderly, Article 9 (10) to provide an annual update on the status of the elderly for the Thai Cabinet.

The NCE has commissioned the Foundation of Thai Gerontology Research and Development Institute (TGRI) to produce the annual elderly status report ever since 2006.

This 2016 edition includes the latest data on the Thai elderly and trends and changes in the age structure of the population in order to provide a projection into the future. This 2016 report focuses on the theme of health of the Thai elderly.

The current and past reports on the status of the Thai elderly have received the generous support of related agencies – both public and private – for sharing relevant and up-to-date information. On behalf of the TGRI, I would like to express sincere gratitude for the various agencies which contributed to this report. I also thank the Elderly Fund for financial support for the production of this annual report.

(Banloo Siriphanich, M.D.)

President,

Foundation of Thai Gerontology Research and Development Institute

# Executive Summary and Recommendations

---





Over the past decade, the populations of many countries around the world continued to age. As of 2016, the world population was estimated to be 7.4 billion persons. Of this total, the number age 60 years or older was estimated to be 929 million persons, or 12.5%. The populations of the ten ASEAN member countries are also aging. In 2016, three of the ASEAN countries qualified as “aged societies”, including Singapore (with 18.7% of its population age 60 or over); Thailand (with 16.5% of its population 60 or over); and Vietnam (with 10.7% of its population age 60 or over). Two other ASEAN countries are projected to become aged societies in the next two or three years, including Malaysia (9.5%) and Myanmar (9.2%).

As of 2016, Thailand had an estimated resident population of 68.9 million persons. Of this total, 65.9 million were Thai nationals, while approximately three million were non-Thai migrants. Of the Thai population, 11 million were age 60 years or older, or 16.5% of the total. At the same time, the growth rate of the Thai population is slowing down rapidly, and is now only 0.4% per year. While net population growth is approaching zero, the elderly population (age 60 or over) is increasing at the rate of 5% per year. The population in the oldest cohort (age 80 or over) are increasing at an even faster rate (6% per year). Projections of the Thai population age structure warn that the proportion of the elderly of the total will increase at an alarming rate. In about five years, Thailand will have reached the criterion of a “complete-aged society” (whereby at least one in five members of the population is age 60 years or older). The speed of this societal aging phenomenon is partially a consequence of the rapid decline in the Thai birth rate. Between 1963 and 1983, Thailand recorded over one million births per year (whose survivors are currently age 33 to 53 years old). This cohort represents a demographic Tsunami that will be age 53 to 73 years in the coming two decades. At that time, the proportion of the population that is elderly (over age 60) will have increased to 30%, or nearly one in three Thais.

Clearly, Thailand needs to urgently prepare ways and means of accommodating its aging population. This will involve the government, community and family, especially in the areas of healthy aging, ensuring enough income in retirement, comfortable housing, and social integration.

This 2016 Report of the Thai Elderly shows that many of the current and future elderly will be living in vulnerable and difficult circumstances. It is estimated that one-third of elderly are living below the poverty line. In the past, elderly members of the household could expect financial support from their children, as this is a Thai cultural norm. However, the declining birth rate and out-migration of adult children means that many elderly are living alone and may not receive adequate financial support from their younger relatives. It is estimated that there are approximately 400,000 elderly who cannot live independently and 600,000 who are in various stages of cognitive deterioration. Twenty years from now, it is estimated that the number of elderly needing assisted living will reach 1.3 million persons, and 1.4 million will have some form of dementia. In addition, the data in this annual report show that there are significant economic disparities among the elderly in both urban and rural areas, and this means that many may not have optimal access to health care and may not have the means to travel to a healthcare provider or understand their healthcare rights.

To address some of these vulnerabilities, there need to be programs to promote healthy exercise for the elderly and activities to increase and maintain social connections and group sharing. While these activities are not necessarily curative interventions, they can help improve mental and physical resilience in the face of aging and, thus, reduce the burden on formal healthcare providers. In the coming decades, Thailand will need to mobilize a vast quantity of resources, build capacity of relevant personnel, modify roles and responsibilities, and establish coordination mechanisms among agencies across sectors to address the needs of the elderly. There will need to be new regulations, models and systems to ensure that the elderly have equal access to health services.



## Policy Recommendations for Health and the Thai elderly

**Promote health and create equitable healthcare service models that are tailored to the elderly throughout the nation**

---

- 1) Improve services so that they are seamless and accessible, e.g., creating a shuttle service for elderly between the home community and healthcare outlet;
- 2) Increase the efficacy of healthcare for the elderly outside the clinical setting, especially long-term, home-based care and community-based care;
- 3) Promote rational drug use among the elderly to reduce drug resistance and side effects;
- 4) Increase the effectiveness of health promotion and disease prevention, especially diabetes, hypertension, accidental falls, and mental health;
- 5) Promote healthy exercise and socialization by improving public transportation and access to green areas, ensuring safety of life and property, and increasing primary service systems;
- 6) Improve information systems to monitor change that is accurate and timely;
- 7) Create a community-based public health service system which caters to the needs of the elderly, such as a health rehabilitation center, and mid-term care system;
- 8) Improve education of student doctors, nurses and other healthcare providers in the academic subject of health dimensions of gerontology;
- 9) Encourage the general population to take better care of their health and practice health maintenance, starting from adolescence so that they can experience healthy aging;
- 10) Define indicators to track progress of implementation of policies and plans to ensure credible outcomes, and collect data on the indicator targets on a routine basis.



## Other Policy Recommendations

So many indicators point to the speed at which the Thai population is aging. In a mere five years from now, Thailand will have become a complete-aged society. Thus, the Thai government needs to urgently address this emerging challenge by enacting new policies and measures to accommodate the elderly population. The following are the key policy recommendations presented in the reports of the Situation of the Thai Elderly in previous years:

### 1

#### **Enable the elderly to live in place of their home residence with quality of life**

---

- 1) Help the elderly remain in the family household in their home community to retain a sense of familiarity of surroundings. This will require improvements in facilities and home modifications in and around the household so that they are elderly-friendly;
- 2) Assist family members to be primary care providers for the elderly in the household, for example by providing information and guidelines, and knowledge on care for the elderly;
- 3) Encourage the local administrative organizations (LAO) and local networks to create a surveillance system for monitoring the status of the elderly in the locality, for example by creating a cadre of volunteers to visit elderly in their homes during the day;
- 4) Encourage the LAO and community to modify the local environment and public services, especially in the area of transportation so that the elderly can remain active outside the home;
- 5) Raise the standard of housing - either by the government or private sector - so that it meets the basic minimum needs of the domicile with elderly residents.

## 2

**Promote secure and dignified lifestyles for the elderly**

---

- 1) Help the elderly to be immune from dangers within and around the home by providing relevant information and guidelines, and developing new tools/mechanisms/technology to help the elderly lead secure and dignified lives;
- 2) Combat “ageism” including negative prejudice against the elderly in the population at all ages and both genders;
- 3) Promote elderly social groups or senior citizens clubs in which the elderly play an active role and maintain their vitality;
- 4) Encourage all agencies, families, and schools to participate in campaigns to promote norms which value and venerate the elderly through various forums and events.

## 3

**Enable the elderly to have income security  
throughout their life**

---

- 1) Promote employment of the elderly;
- 2) Promote a new vision or image of being elderly so that society sees older persons as still strong, with the capacity to contribute to productivity in the labor market;
- 3) Change procedures, regulations and laws which pose obstacles to hiring the elderly, and extend the age of mandatory retirement for government civil servants and workers in state enterprises;
- 4) Educate the population to learn how to save for retirement so that they can be financially independent;
- 5) Strengthen the National Savings Fund and ensure good management of the Fund;
- 6) Improve and expand pension funds so that all senior citizens have coverage, including measures to improve the elderly welfare subsidy so that it is aligned with cost of living and inflation.

## 4

### Develop a plan for assistance for the elderly in case of disaster

---

- 1) All LAO at all levels should give priority to the elderly in plans for prevention and mitigation of disasters;
- 2) Produce a “Disaster Handbook” which has a special focus on assisting the elderly;
- 3) The relevant disaster response agencies need to share a database on the elderly in their zone of operations; the database should have coordinates to locate the elderly, record their health status, and list contact persons in case of emergency. The database should be up-dated regularly;
- 4) The relevant agencies should conduct regular drills in assisting the elderly at appropriate intervals;
- 5) Educate the elderly in preparedness for self-assistance and rehabilitation in the event of disaster.

SITUATION  
OF THE THAI  
ELDERLY 2016

---





Definition of “Elderly”	12
Definition of Different Stages of an Aged Society	13
Sources of Data Cited in the 2016 Report on the Situation of the Thai Elderly	14

## **Part 1 General Situation 15**

<b>1.1 Aging of the world population</b>	<b>16</b>
<b>1.2 Aging of the population in ASEAN member countries</b>	<b>20</b>
<b>1.3 Status of aging of the Thai population</b>	<b>22</b>
1) The proportion of the population that is elderly is rapidly approaching 20% of the total	23
2) The elderly will soon exceed the number of children for the first time in Thai history	24
3) The “million birth cohort” is aging into the elderly segment of the population	26
4) The Thai population is aging an accelerating pace	27
5) Lamphun, Lampang, and Phrae Provinces have the highest levels of aging in the country	28
<b>1.4 Housing and living arrangement of the Thai elderly</b>	<b>29</b>
1) In 2016 the average size of the Thai household was only 3 persons	30
2) One out of ten elderly in municipal areas are living alone	31
3) The proportion of the elderly who are living alone is increasing	31
4) The home environment can have a significant impact on the daily life of the elderly	32
<b>1.5 Economic status of the Thai elderly</b>	<b>34</b>
1) One out of three Thai elderly have income under the poverty line	34
2) Children are still an important source of income for the elderly, but this support has declined significantly	35
3) The percent of Thai elderly in the work force is increasing	35
<b>1.6 Health status of the Thai elderly</b>	<b>37</b>
1.6.1 Trends for the elderly who are not self-sufficient for basic daily life activities	39
1.6.2 Self-perceived health status of the elderly	40
1.6.3 Estimate of the number of elderly in Thailand with dementia	42
1.6.4 Health manpower to provide services for the elderly	44
1.6.5 Why Thailand has to urgently produce more healthcare providers for eldercare	46
References	48

# Contents

<b>Part 2 Access to Health Services of the Elderly</b>	<b>49</b>
2.1 Health care for the elderly and policy on health services provision	50
2.2 Community rehabilitation centers improve access to care for the elderly	66
<b>Part 3 Highlights of the Year</b>	<b>71</b>
3.1 The National Elderly Person for the Year 2016 is Dr. Snoh Unakul	73
3.2 The value of the elderly: Thai national artists of 2016	80
3.3 Care for dependent elderly	85
3.4 Declaration of the elderly and Thai programs for the elderly	88
3.5 Thai cabinet resolution on the elderly of November 8th, 2016	92
3.6 Media recognition of the consequences of an aging Thai society	97
3.7 Financial products for the elderly	100
3.8 Innovations for the elderly	102
<b>Part 4 Research on the Thai Aging Society, 2016</b>	<b>111</b>
4.1 A study on achievement in elderly health policy implementation of MOPH hospitals: A case study on elderly clinic	112
4.2 A Study of the prototype of the integration of a long-term care system for dependent older persons	114
4.3 Review of literature on health and long-term care of the elderly in the context of laws and legislation	117
4.4 Lessons learned from enterprises which hire the elderly	120
4.5 Performance of health care for elderly and impact on public health care financing during 2011-2021	122
4.6 Study of centenarians in Thailand	124
4.7 Research synthesis on the relation of psycho-social characteristics relevance to quality of life among elderly in Thailand	126
4.8 Social care system for elderly	129
<b>Working Committee of the Report on the Situation of the Thai Elderly 2016</b>	<b>133</b>

# Definition of “Elderly”

The United Nations does not define a specific age at which a person becomes elderly, but the UN uses age 60 years or over for statistical analysis and indicators related to the elderly.

For majority of developed countries, the cut-off age at 65 years is always applied (WHO, 2002).

Thailand defines the elderly in the 2003 Act on Older Persons as a person age over 60 completed years and who has Thai nationality.

In this 2016 Report on the Situation of the Thai elderly, the elderly is defined as the population age 60 years or older.



Definition of Different Stages

# of an Aged Society

This 2016 Report on the Situation of the Thai Elderly uses the following definitions:

“Aged society” refers to a population in which the proportion of those age 60 years or older exceeds 10% of the total (or a population in which 7% are age 65 years or older).

“Complete-aged society” is a population in which the proportion of those age 60 years or older exceeds 20% (or a population in which 14% are age 65 years or older).

“Super-aged society” is a population in which the proportion of those age 60 years or older exceeds 28% (or a population in which 20% are age 65 years or older).

“Aging society” refers to a population that is aging as indicated by the proportion elderly of the total population that is steadily increasing.



## Sources of data cited in the 2016 Report on the Situation of the Thai Elderly

**United Nations, 2016. World Population Prospects, the 2015 Revision.** This report shows age-sex population projections for all countries of the world based on data from those countries' national censuses.

**Population and Housing Census** conducted by the National Statistical Office (NSO) is based on a total enumeration of the resident population every ten years. The last Thai census was in 2010.

**Civil Registration** is managed by the Bureau of Registration Administration of the Department of Provincial Administration of the Ministry of Interior. The numbers of births and deaths and registered population will be reported at the end of each calendar year.

**Population Projections for Thailand, 2010-2040** these are produced by the National Economic and Social Development Board (NESDB), by using the data from the 2010 census as a baseline. The projections present data on age and sex distribution of the population by year based on assumptions of fertility, survival and migration. The Institute for Population and Social Research (IPSR) has produced adjusted projections for 2015 to align them with the 2015 Civil Registration data, which includes non-Thai residents listed in the household registration.

**The 2014 Survey of the Older Persons in Thailand.** This survey is also implemented by the NSO every five years starting in 1994. The 5th round of the survey was completed in 2014. The sample consists of the population age 50 years or older in 83,880 households. For the purpose of this 2016 Report on the Status of the Thai Elderly, only data for the population age 60 years or older were used.

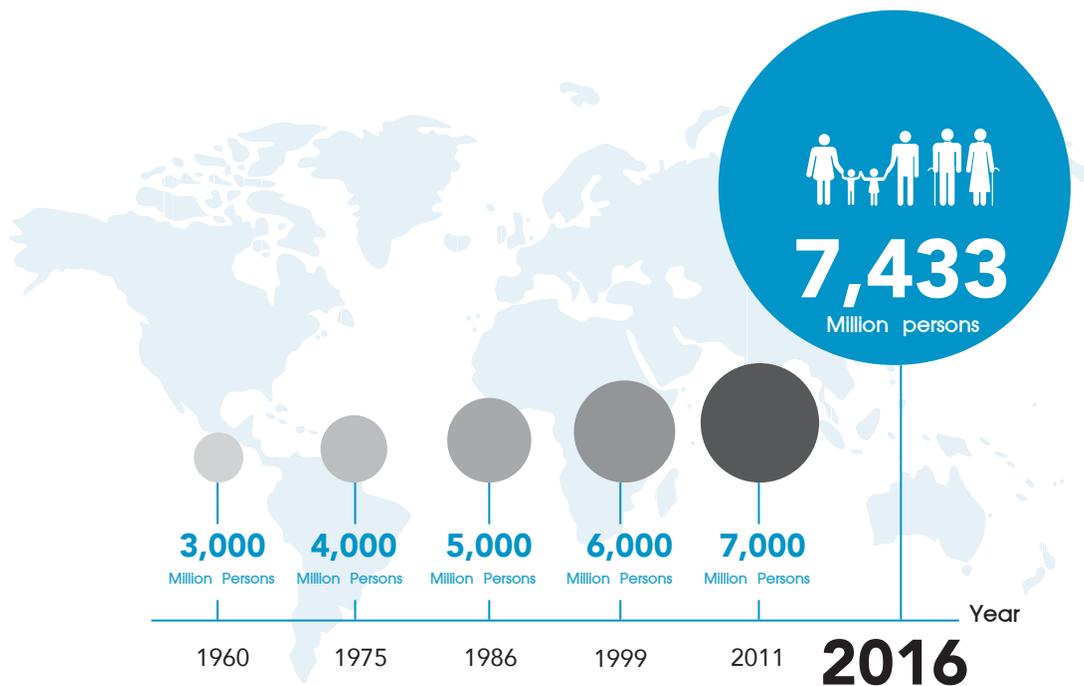
**The National Health Examination Survey, NHES V (2014).** This survey is implemented by the Office of the Survey of the Health of the Thai Population, Health Systems Research Institute (HSRI). The first round was conducted during 1991-92 and has been repeated every five years thereafter. This survey is notable for its use of objective measures of health using a physical exam and extraction of specimens for laboratory testing. The sample includes males and females of all age groups. For the purpose of this 2016 Report on the Status of the Thai Elderly, only data for the population age 60 years or older were used.

1.

General  
Situation

# 1.1

## Aging of the world population



Source: UN, 2016

In the past half century, the global population increased by more than four billion persons. The world population in 1960 was about three billion persons. That total increased to seven billion by 2011, and then to 7.4 billion in 2016.

The UN estimated that the world population reached five billion on July 11, 1986. Ever since, July 11 of each year has been designated as World Population Day.

In 1986, the population age 60 years or older was estimated to be 435 million persons, or 8.8% of the total.

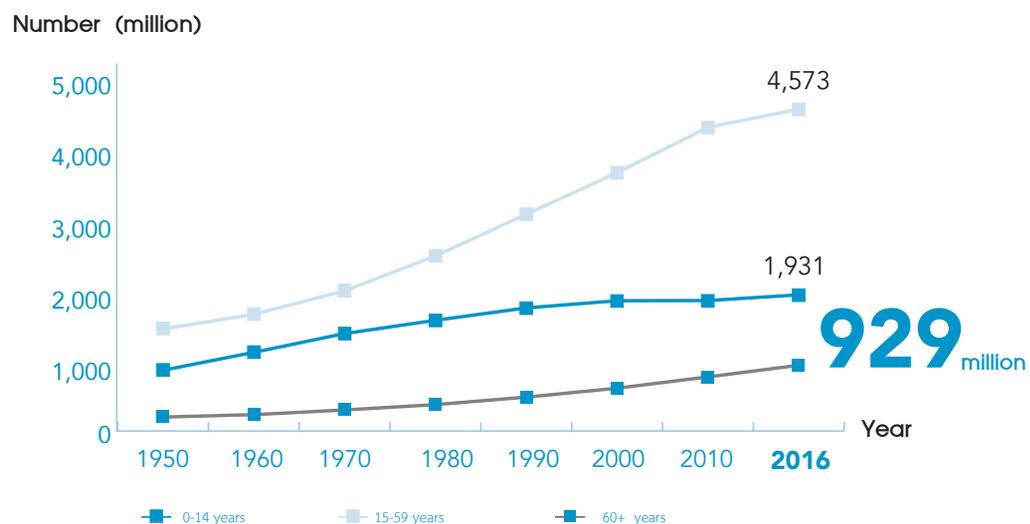
The global population became an aged society in 2006 (i.e., at least 10% of the

populations was 60 years or older). Since that time, the pace of aging of the world population has been accelerating, while the population for other age groups increased at a declining rate. The growth rate of the population of all ages increased at only 1.1% per year, compared to nearly three times that rate for the elderly population age 60 years or older (3.1% per year).

In 2016 there were approximately 7.4 billion persons throughout the world. Of this total, 929 million (12.5%) were age 60 years or older.

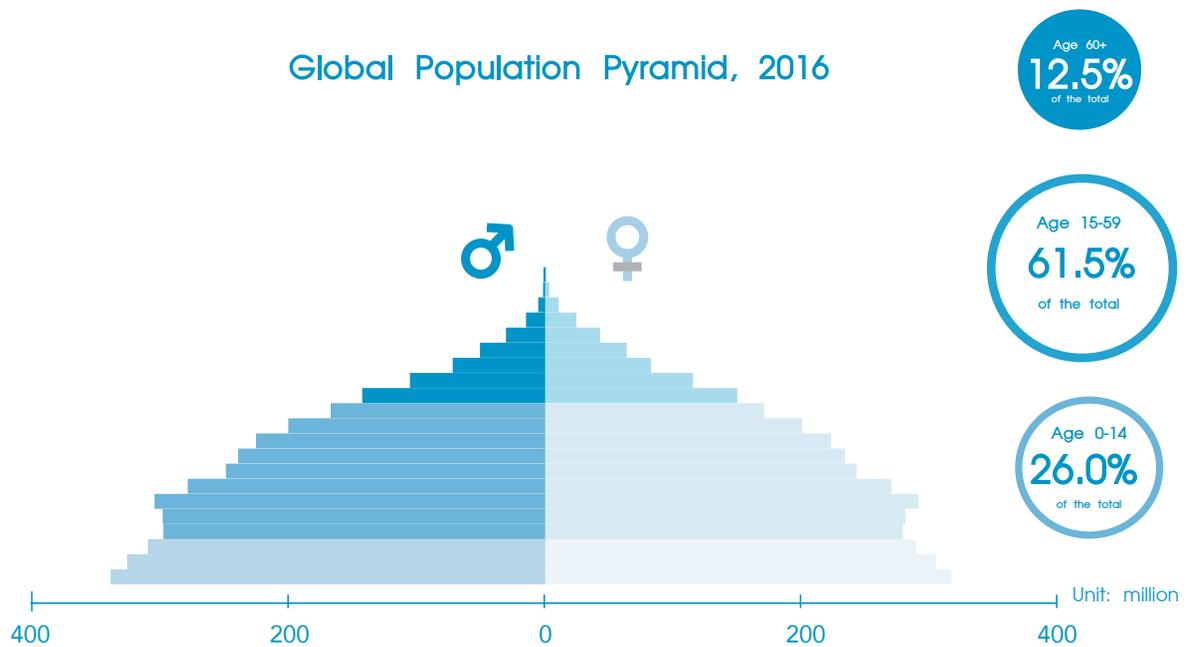
It is a demographic certainty that the age of the global population will continue to increase. While all the developed countries become complete aged societies, the population of developing countries are aging at very rapid rate, and many of them have already become aged societies.

Thus, the population aging is a phenomenon that will have adverse impacts on the quality of the global population – at present, and increasingly so in the future.



Source: UN, 2016

## Global Population Pyramid, 2016



**Total global population of 7.433 billion**

Sex ratio: 107 males per 100 females

Source: UN, 2016

	Number of population	% of the population age 60 years or older
Japan	128	33.1
United Kingdom	66	23.7
USA	322	21.0
Brazil	208	12.2
Kenya	48	4.2
Australia	24	20.7

Source: UN, 2016

The UN General Assembly issued a resolution dated December 14, 1990 which proclaimed that October 1<sup>st</sup> of each year is the [International Day for Older Persons](#). The purpose is to remind the general population of the importance of the elderly in society in terms of their value and contribution to society, and to combat ageism and violence against the elderly.

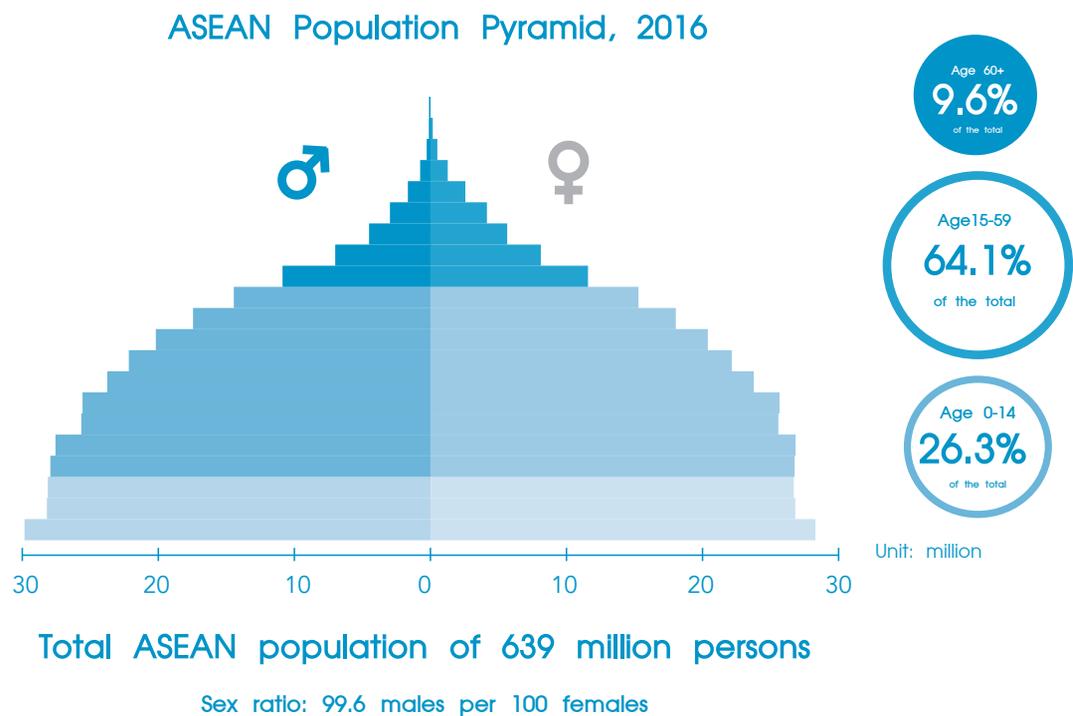
# Take a Stand Against Ageism

:Let's work  
to Eradicate  
Ageism

Slogan for the 2016  
International Day for Older Persons

## 1.2

### Aging of the population in ASEAN member countries



Source: UN, 2016

The Association of South East Asian Nations (ASEAN) was founded by the Bangkok Declaration on August 8, 1967. The founding members include Indonesia, Malaysia, the Philippines, Singapore and Thailand. Later, more countries from the region joined ASEAN, reaching its present number of ten members in 1999. In that year, the ASEAN population was 518 million persons, of whom 38 million (7.3%) were age 60 years or older. These figures increased to 639 million and 61 million (9.6%) by 2016, respectively. In 1999, Singapore was the only ASEAN member country which had already become an aged society, with 10.5% elderly of the total population. In the 17 years since then, two more countries became an aged society: Thailand and Vietnam (see the table below).

## Percent elderly of the total population in 1999 and 2016 by ASEAN member country

Country	1999*		2016	
	number of total population (1,000 persons)	% of the population age 60+ years	number of total population (1,000 persons)	% of the population age 60+ years
Singapore	3,823	10.5	5,697	18.7
Thailand	61,974	9.6	68,147	16.5
Vietnam	79,400	8.6	94,444	10.7
Indonesia	208,644	7.2	260,581	8.5
Myanmar	47,107	7.1	54,363	9.2
Malaysia	22,899	6.1	30,752	9.5
Lao PDR	5,256	5.4	6,918	6.1
Philippines	76,285	5.0	102,250	7.4
Cambodia	11,928	4.9	15,827	6.9
Brunei	324	4.0	429	8.1

\* 1999 is the year when ASEAN had ten member countries

Source: UN, 2016

**Note:** The population totals for Thailand in this table may differ from the NESDB estimates because of different assumptions applied.

## 1.3

### Status of aging of the Thai population

Fifty years ago, the Thai population was growing at the rate of 3% per year. However, in the years since, there has been extremely rapid decline in fertility, and the current Thai population growth rate is only 0.5% per year. In 1960, the Thai population totaled 26 million persons. That number increased to 60 million by 1996 and to nearly 66 million at the time of this report.



Source: Population Projections for Thailand 2010-2040, NESDB

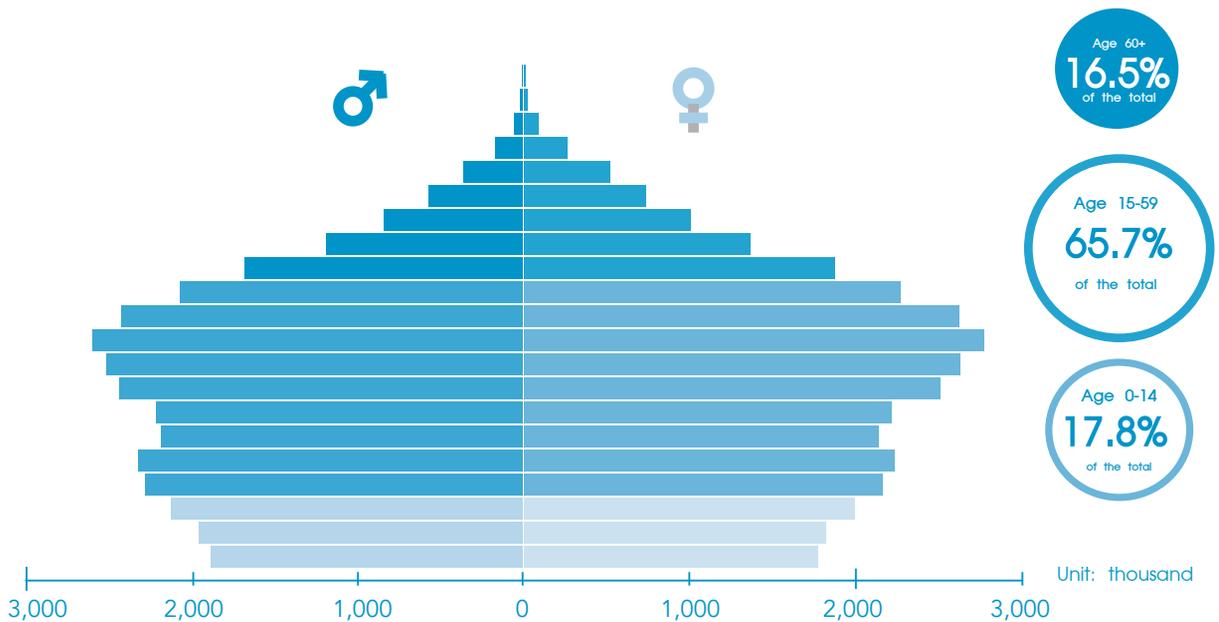
While the growth of the overall Thai population was slowing down dramatically, there was a corresponding rapid increase in the rate of growth of the elderly population. In 1960, Thailand had only one million persons age 60 years or older, or 4% of the total population of 26 million. In 2005, Thailand became an aged society when the proportion of population age 60 years or older was over six million, accounting for 10% of the total.

In 2016, among 65.9 million Thais, there are 11 million persons age 60 years or older or 16.5% of the total population.

1)

The proportion of the population that is elderly is rapidly approaching 20% of the total

Thailand Population Pyramid, 2016



Total Thai population of 65.9 million

Sex ratio: 96 males per 100 females

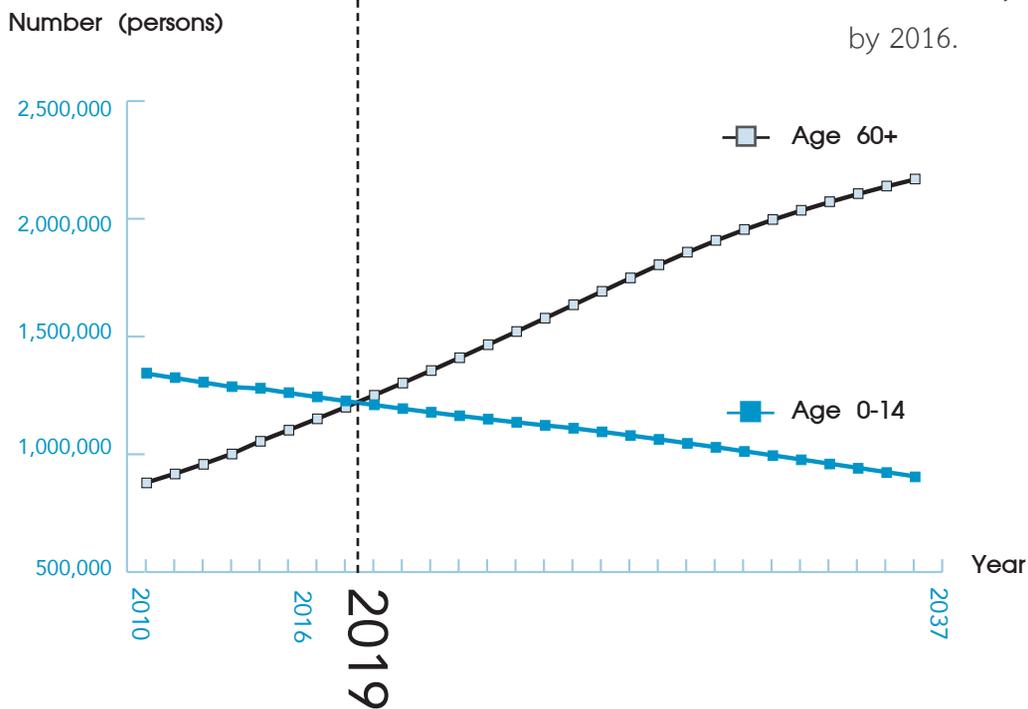
Source: Population Projections for Thailand 2010-2040, NESDB

It is estimated that, by 2019, the number of elderly (age 60 years or older) will exceed the number of children (under age 15 years).

2)

The elderly will soon exceed the number of children for the first time in Thai history

The rapid decline in the number of births in the past two to three decades means that Thai children are shrinking as a proportion of the total population. Thirty years ago, over one in three Thais was age under 15 years (35% of the total). This proportion had decreased by nearly half to 18% by 2016.

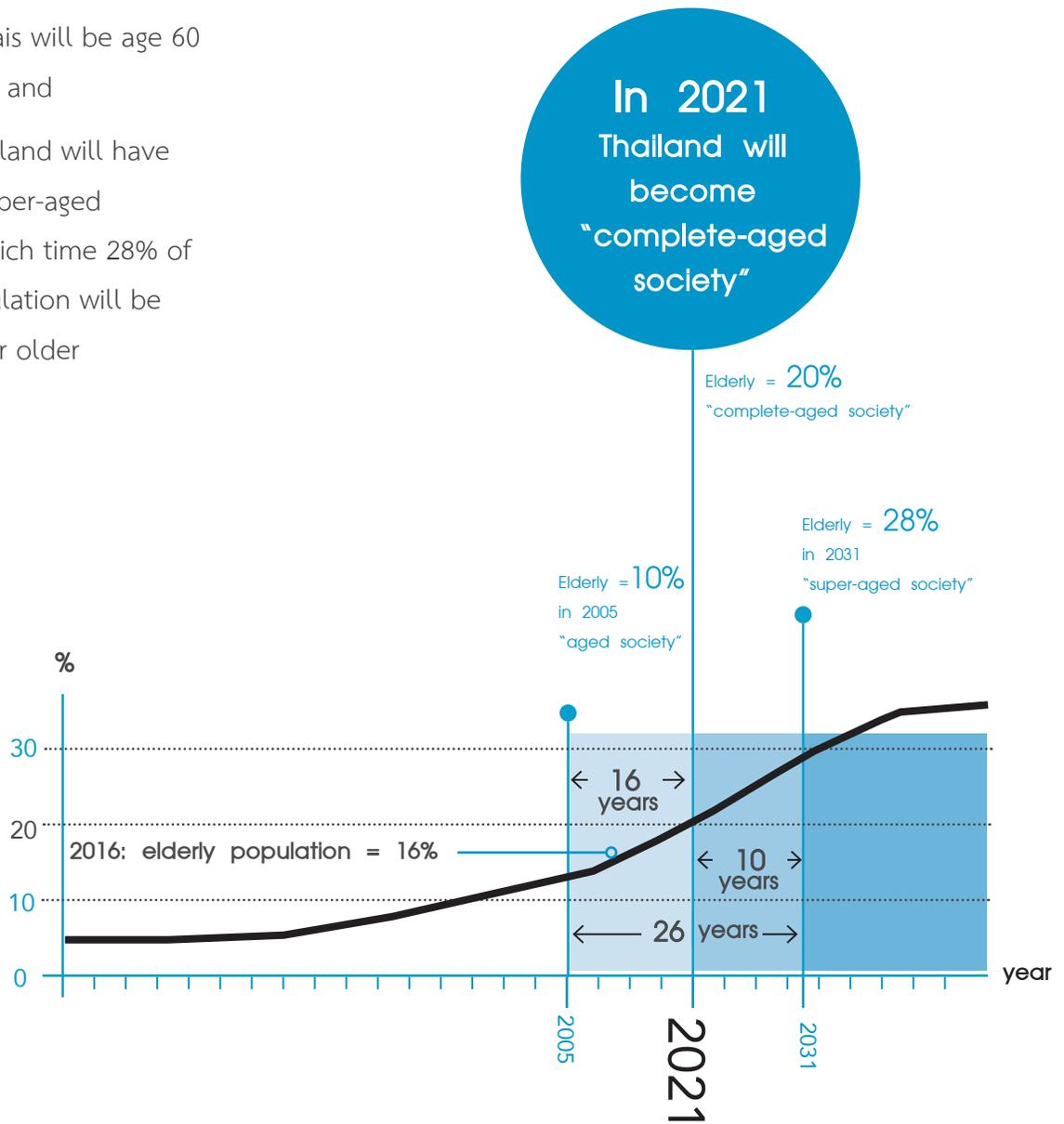


Source: Population Projections for Thailand 2010-2040, NESDB

It is projected that...

... in 2021, Thailand will have become a “complete-aged society” at which time at least one in five Thais will be age 60 years or older; and

... in 2031 Thailand will have become a “super-aged society” at which time 28% of the total population will be age 60 years or older



Sources: Population and Housing Census 1970, 1990, and 2010, NSO  
 Population Projections for Thailand 2010-2040, NESDB

## 3)

## The “million birth cohort” is aging into the elderly segment of the population.

From now until the foreseeable future, the Thai population will be aging fast;

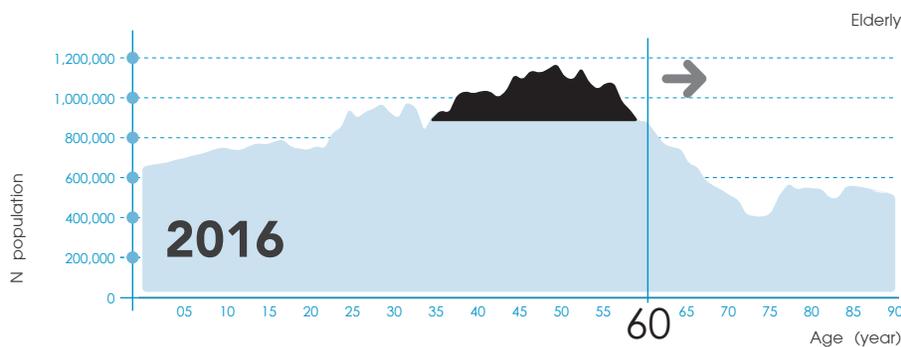
In 2016, approximately 80% of the 770,000 surviving children born in 1956 reached 60 years old, or are considered “elderly”;

The “million birth cohort” for Thailand refers to the persons born during the two decades

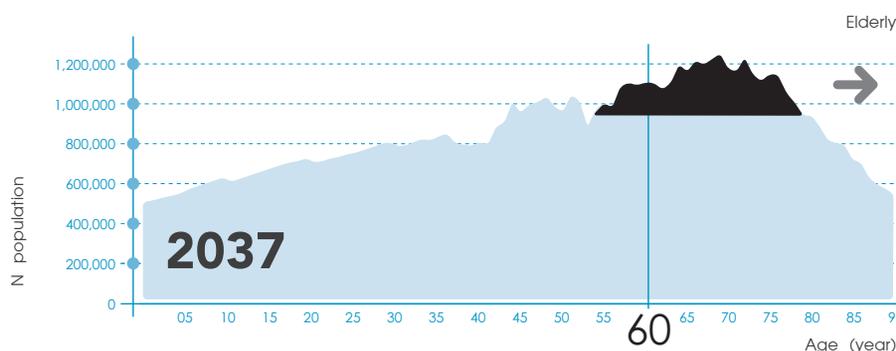
from 1963-83 which, according to the civil registration system, were the only years in which the number of births exceeded one million in Thai history. In 1971, the number of Thai births peaked at 1.2 million. As of 2016, the living million birth cohort were between age 33 and 53 years;

In the coming seven years, the million birth cohort will begin to transition into the elderly segment of the population. This demographic Tsunami will then cause the number of Thai elderly to increase rapidly;

In the coming 20 years (i.e., by the year 2037) the million birth cohort survivors will be age 53-73 years.



**In 2016, approximately 80% of the surviving children born in 1956 had reached age 60 years or, i.e., were elderly.**

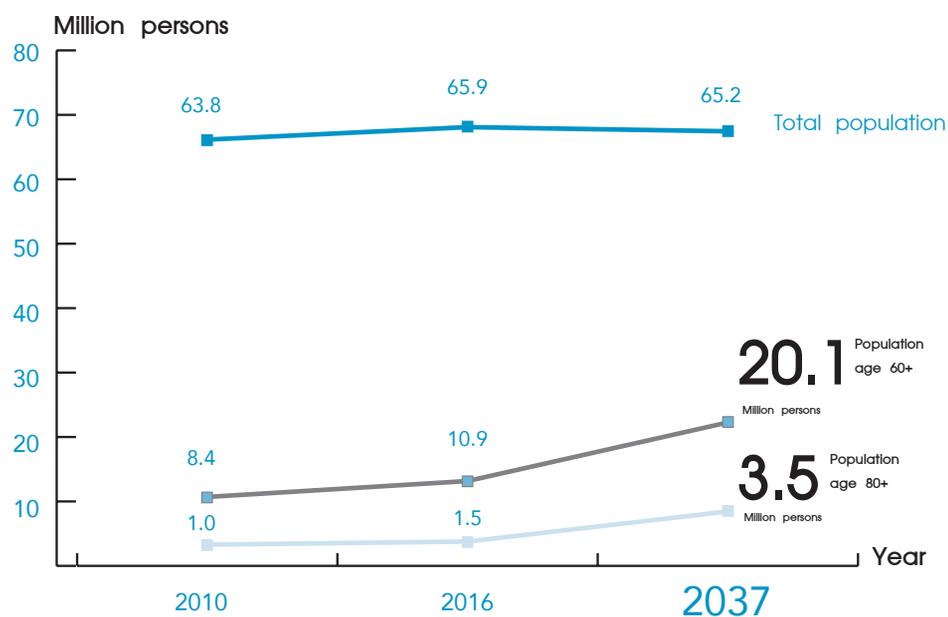


**In the year 2037, the survivors of the million birth cohort will be age 53 to 73 years old.**

## 4)

## The Thai population is aging an accelerating pace

At the same time at which overall Thai population growth is slowing, the number of elderly Thais is increasing at a very fast pace.

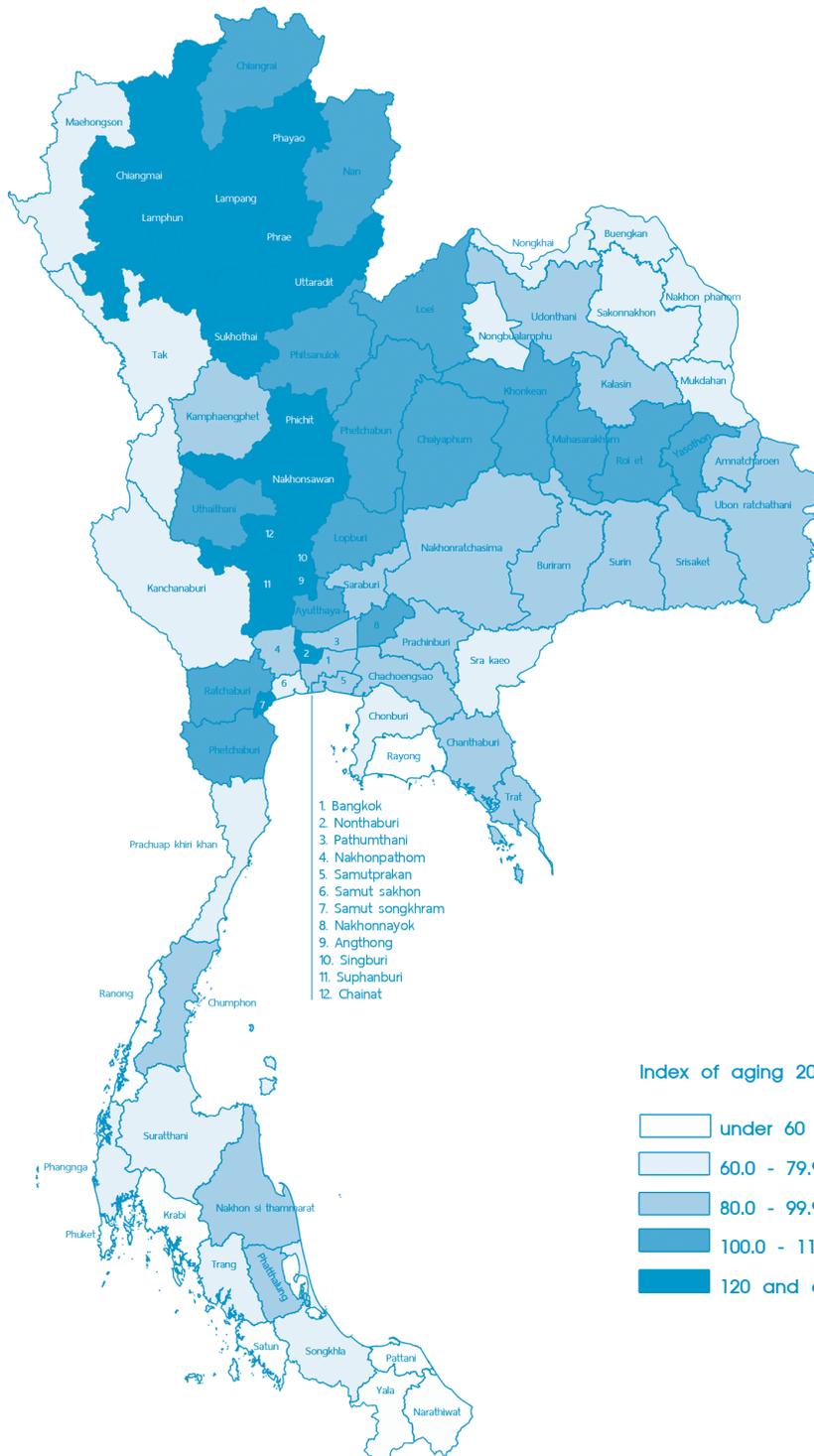


	2010		2016		2037
	Number (million persons)	% increase (annual average)	Number (million persons)	% increase (annual average)	Number (million persons)
Total population	63.8	0.5	65.9	0.0	65.2
Population age 60 years or older	8.4	4.9	10.9	4.0	20.1
Population age 80 years or older	1.0	6.5	1.5	6.3	3.5

Source: Population Projections for Thailand 2010-2040, NESDB

5)

Lamphun, Lampang, and Phrae Provinces have the highest levels of aging in the country.



10 Provinces with Lowest Index of Aging		
	Province	Index of Ageing
1	Narathiwat	43.4
2	Yala	43.7
3	Pattani	47.7
4	Satun	49.4
5	Krabi	51.4
6	Phuket	53.6
7	Ranong	56.1
8	Rayong	59.7
9	Mae Hong Son	62.9
10	Sa Kaeo	63.0

10 Provinces with Highest Index of Aging		
	Province	Index of Ageing
1	Lamphun	164.8
2	Lampang	163.9
3	Phrae	159.6
4	Samut Songkhram	147.7
5	Singburi	141.8
6	Uttaradit	138.2
7	Payao	136.8
8	Chainat	136.0
9	Nakornsawan	128.8
10	Sukothai	127.9

Source: Population Projections for Thailand 2010-2040, NESDB



## 1.4

### Housing and living arrangement of the Thai elderly

As people age, their domicile and living arrangement become an increasingly important factor for quality of life. In addition, the persons who live with an elderly member of the household could be either a burden or a care provider. The aging of the Thai population is occurring at a time of transition away from the traditional extended family household with members of multiple generations living under the same roof. The current trend in Thai households is toward smaller size and even single-member households. In addition, more households are comprised of members who are not blood relatives and, thus, may not even be considered a “family” in the traditional sense.

#### *Traditional definition of “family”*

*A group of persons with a personal connection either by marriage, blood relation, or adoption who live together as a family unit. Family members are connected emotionally in carrying out their daily lives. There are relationships and communication in accordance with defined social roles of husband, wife, mother, father, elder/junior siblings, in which there are socio-economic inter-dependencies.*

*(The Royal Society of Thailand, 2014)*

1)

In 2016 the average size of the Thai household was only 3 persons



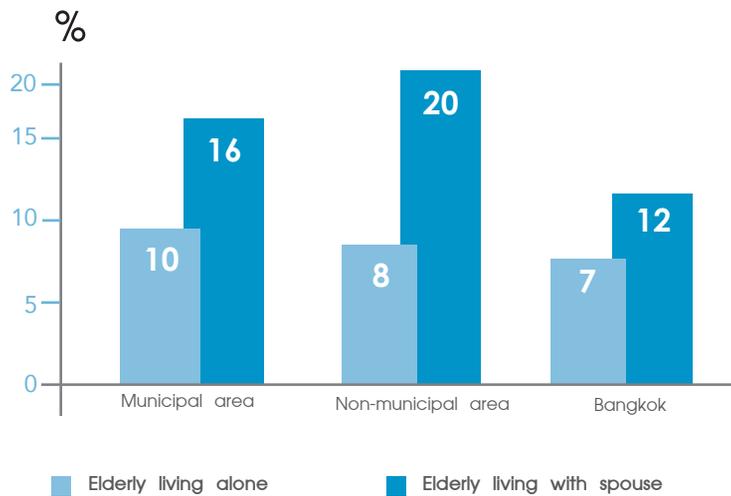
### Thai Household Size<sup>2</sup>

1980		5.2
1990		4.4
2000		3.8
2010		3.1

Sources: <sup>1</sup>Data on average size of the Thai household in 2016 comes from the household registration system of the Department of Provincial Administration, Ministry of Interior.

<sup>2</sup>National Population and Housing Census 1980, 1990, 2000, and 2010, NSO

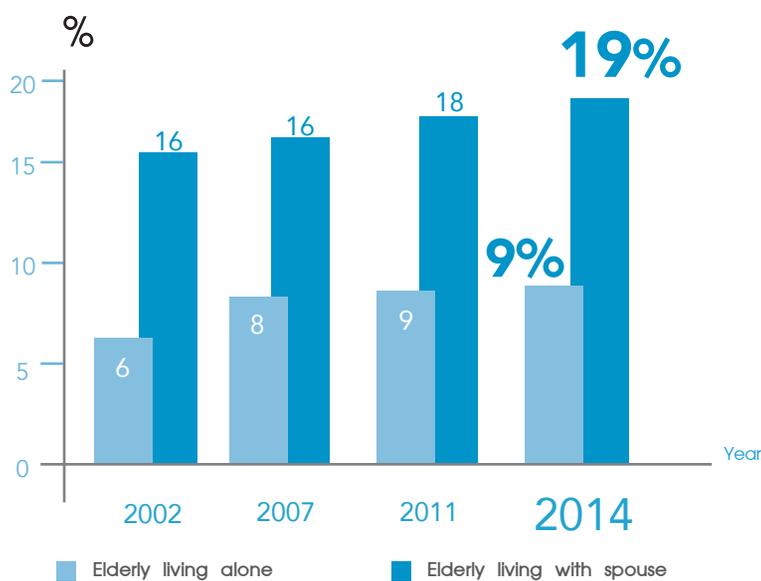
### Elderly living alone



Source: Survey of the Older Persons in Thailand 2014, NSO

2)  
One out of ten elderly in municipal areas are living alone

### Elderly living alone 2002 - 2014



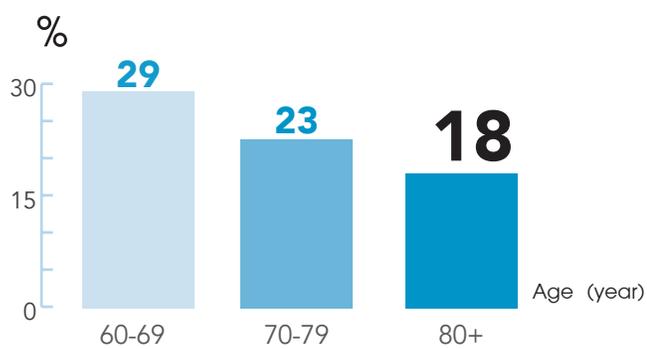
Sources: Survey of the Older Persons in Thailand 2002, 2007, 2011 and 2014, NSO

3)  
The proportion of the elderly who are living alone is increasing

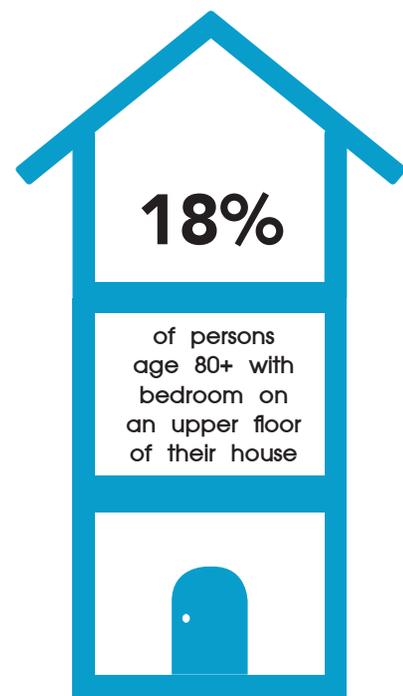
4)

The home environment can have a significant impact on the daily life of the elderly

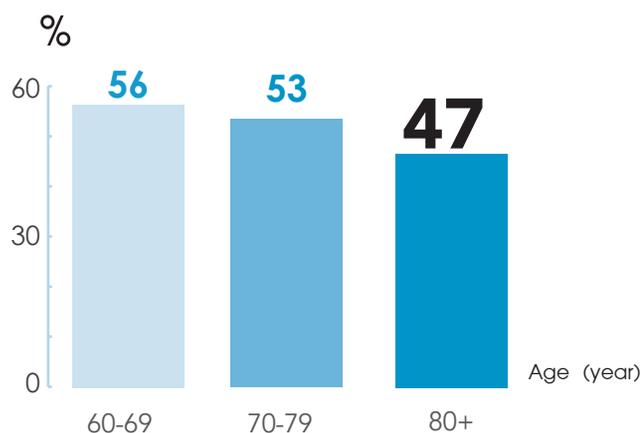
Elderly living in a house with the bedroom on an upper floor



Source: Survey of the Older Persons in Thailand 2014, NSO



Elderly who only have a squat latrine as an option



Source: Survey of the Older Persons in Thailand 2014, NSO

About half of the oldest elderly (80 years or and over) only have a squat latrine as an option

The 2014 Survey of the Older Persons in Thailand asked respondents the following question: “In the past six months have you fallen accidentally while walking or standing, or have fallen from your bed, chair or elevated position?” (Specify the number of falls and location).

“Fall” in this survey does not include falling as a result of being pushed by a person or household pet, or colliding with an object or obstruction.

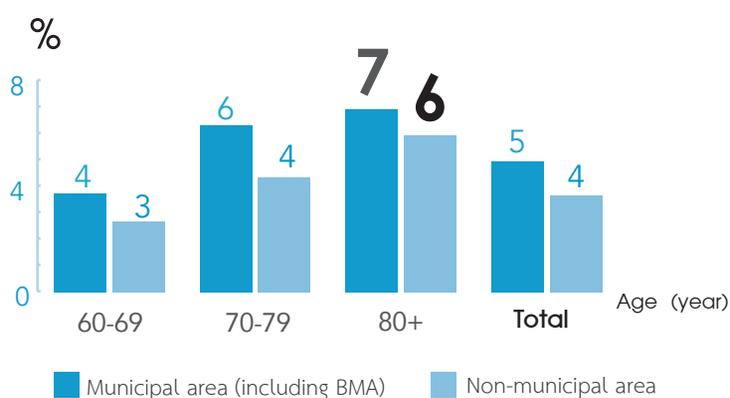
# Fully 6-7 %

of the oldest elderly  
(age 80 and over)

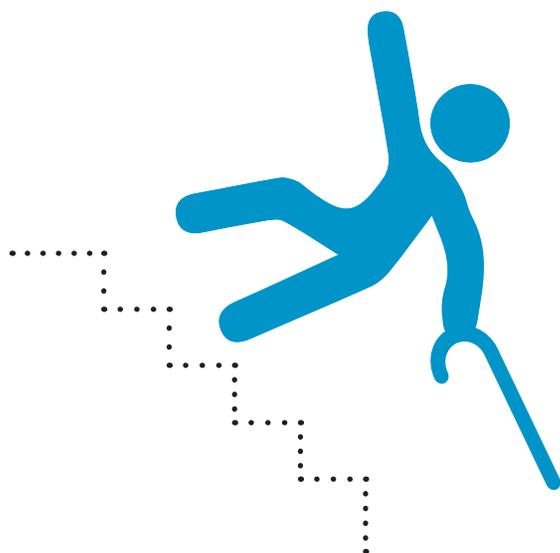
## had an accidental fall

in their household  
in the six months  
prior to the survey

### Elderly who have a history of accidental fall in the home



Source: Survey of the Older Persons in Thailand 2014, NSO

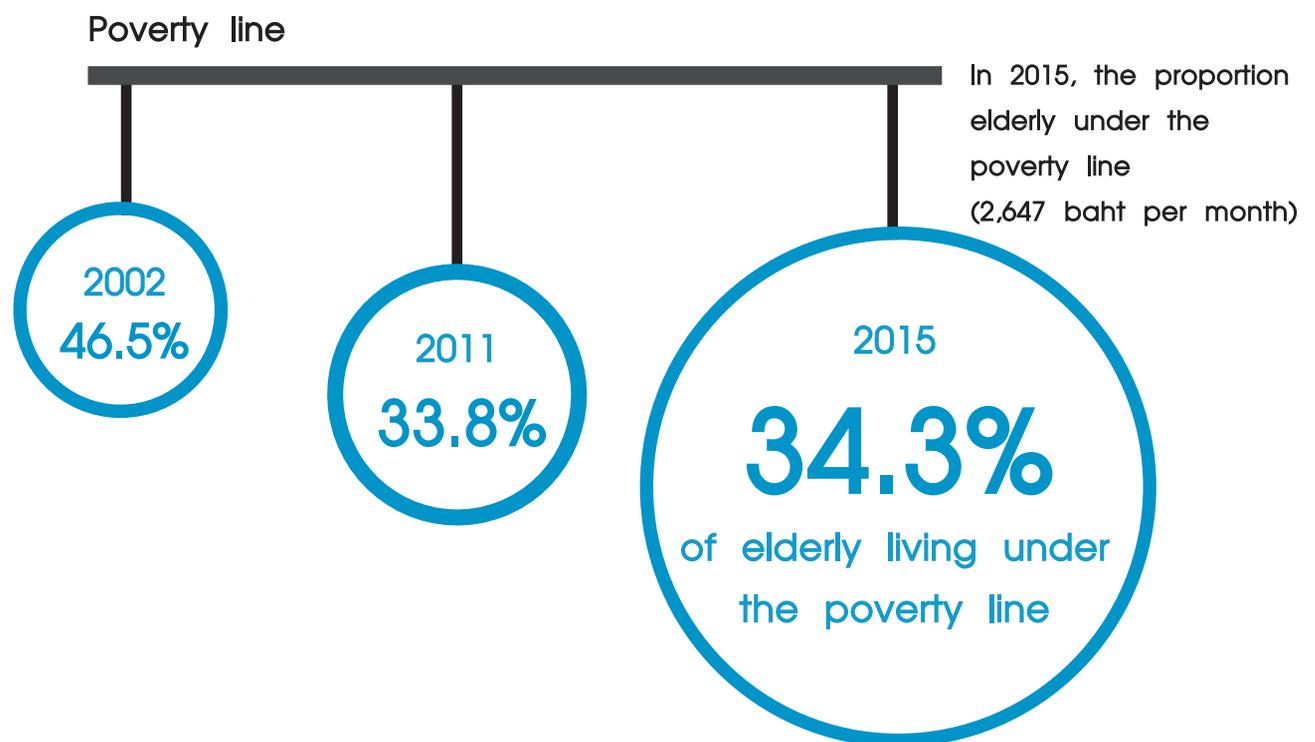


# 1.5

## Economic status of the Thai elderly

1)

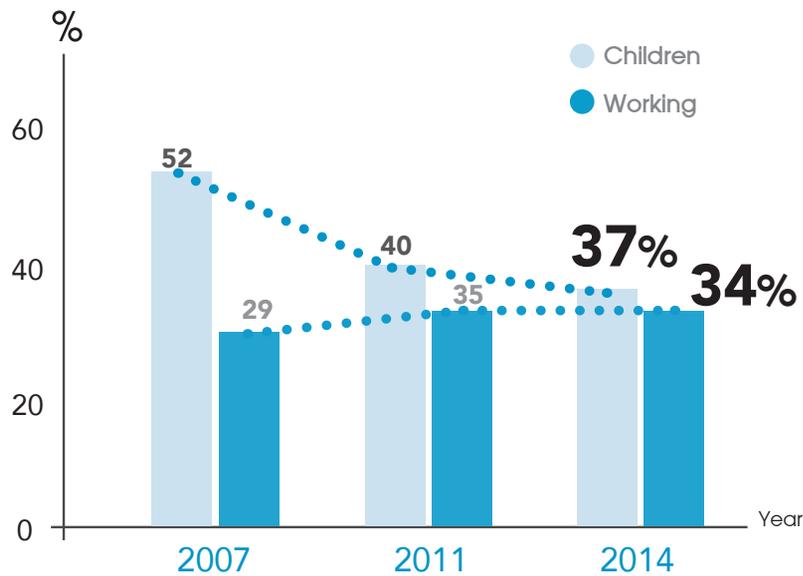
One out of three Thai elderly have income under the poverty line



Sources: Survey of the Older Persons in Thailand: 2002, 2011 and 2014, NSO  
Social and Quality of Life Database, NESDB

Where one is in relation to the poverty line is an indicator of economic status. The poverty line represents the level of income required to cover the minimum cost of living. The poverty line is based on an individual's need to purchase food, and other essential goods and supplies to live a sustainable life.

## Elderly's sources of income



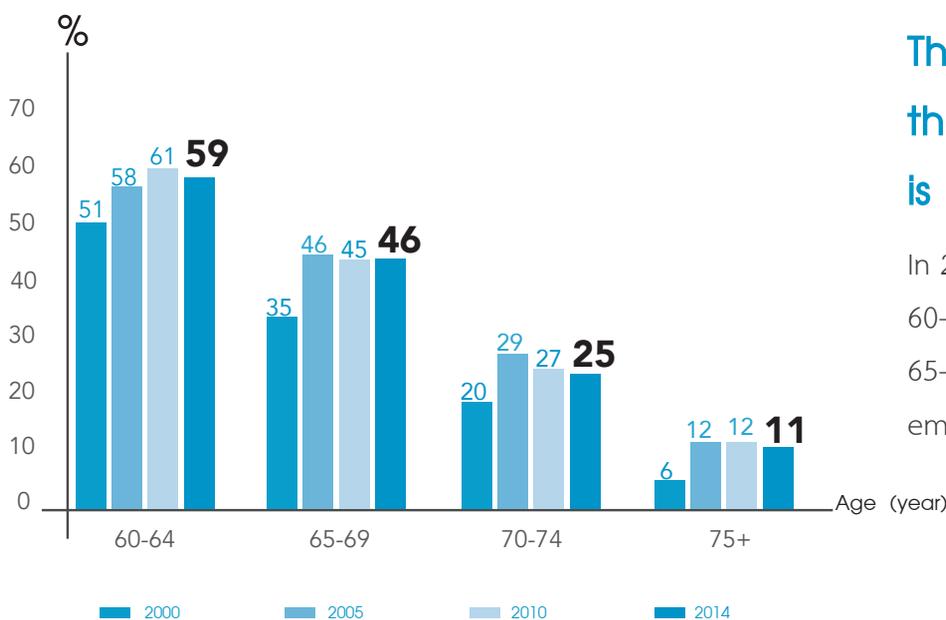
Sources: Survey of the Older Persons in Thailand 2007, 2011 and 2014, NSO

2)

Children are still an important source of income for the elderly, but this support has declined significantly

Elderly income from children and work are merging as the principal source of support for the elderly.

## Elderly still employed



Sources: The Labor Force Survey 2000, 2005, 2010 and 2014, NSO

3)

The percent of Thai elderly in the work force is increasing

In 2014, 59% of persons age 60-64 and 46% of those age 65-69 years were still actively employed.

In 2016

**8 million**

Thai elderly received the monthly welfare subsidy for the elderly.

The government spent over

**63 billion baht**

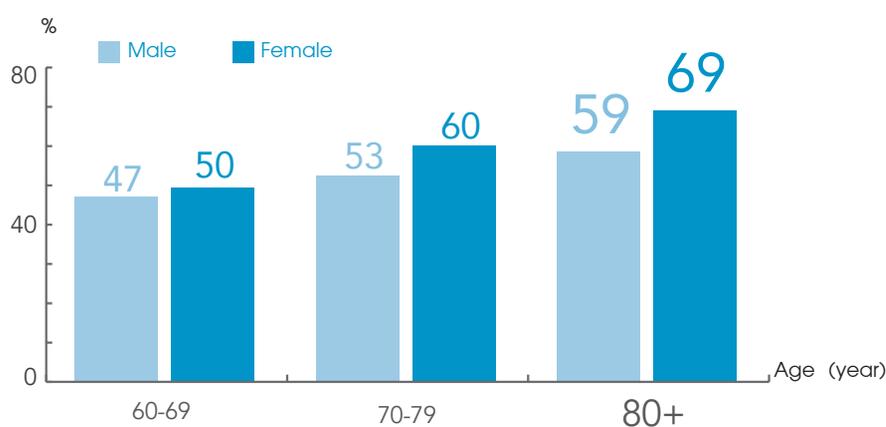
in paying this subsidy.

# 1.6

## Health status of the Thai elderly

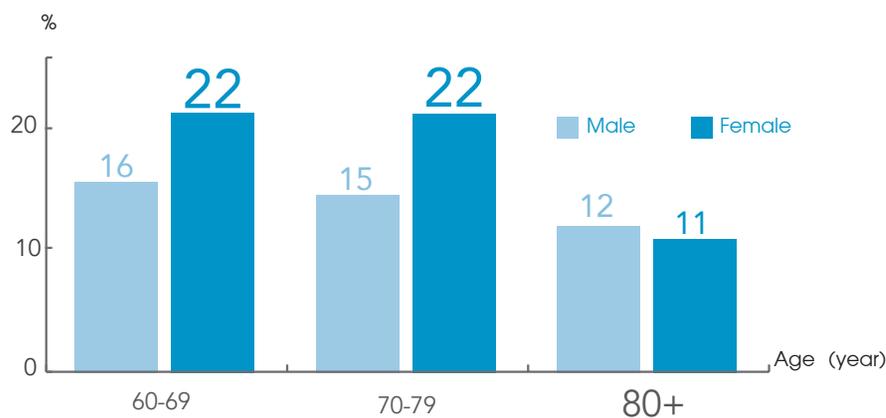
The Thai National Health Examination Survey found that common health conditions of the elderly include hypertension, diabetes, joint inflammation/ degradation, emphysema, chronic obstructive pulmonary disease, coronary artery disease, and paralysis.

### Elderly living with hypertension



**Over 60%** of Thai oldest old (80+ years) have high blood pressure (hypertension)

### Elderly living with diabetes

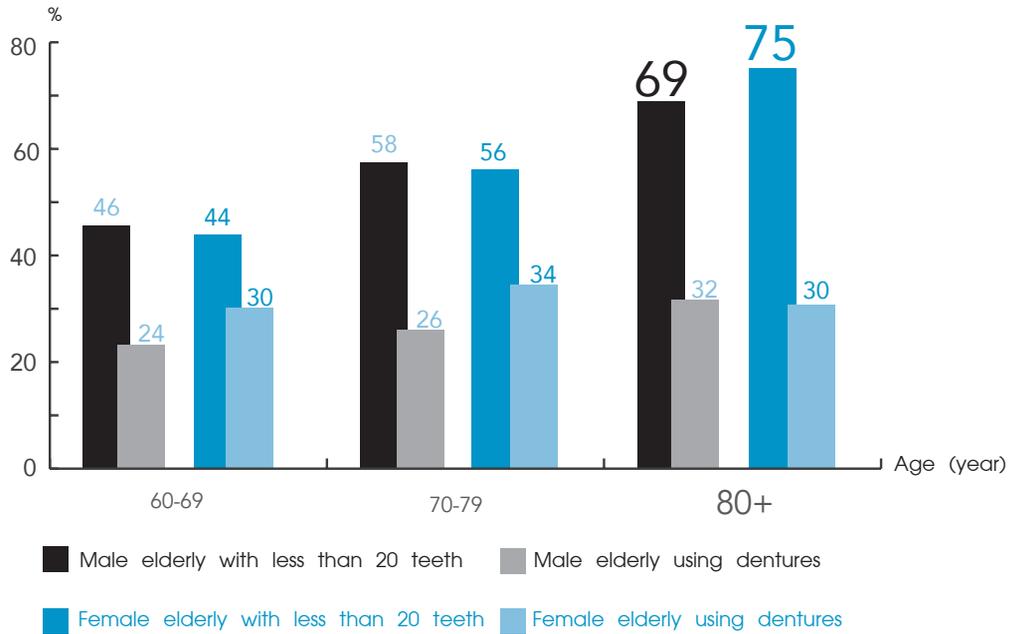


**Over 10%** of Thai oldest old (80+ years) have diabetes

Source: National Health Survey 2014, HSRI

Over 70% of Thai oldest old (80+ years) have less than 20 teeth

Elderly with less than 20 teeth; using dentures



One out of three elderly are overweight

The body mass index (BMI) measurement can be used to assess obesity. It is calculated by using body weight in kilograms divided by the height in meters squared.

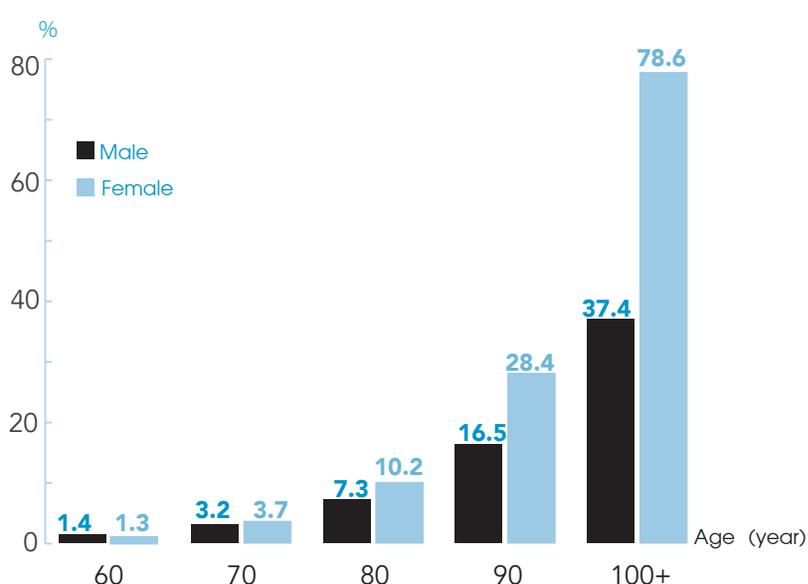
If the result is equal to or higher than 25 (BMI  $\geq$  25 kg/m<sup>2</sup>) then that person is overweight.



## 1.6.1

### Trends for the elderly who are not self-sufficient for basic daily life activities\*

Some studies of the elderly have focused on independence and self-reliance of older persons to take care of themselves and provide for daily necessities. The degree of independence can range from “bed-ridden,” to “home-confined,” to “actively social outside the home.” Three basic activities particularly relevant to self-reliance of the elderly are meals/feeding oneself, getting dressed, washing up/bathing. Any older person who cannot do one or more of these basic daily functions will have to be dependent on another or others.



Data from the 2014 Survey of the Older Persons in Thailand allow for the calculation of the prevalence of elderly who are not self-sufficient in performing the minimum basic daily activities, by age (see figure below).

	2016		2037	
	Number (x 1,000)	% total elderly	Number (x 1,000)	% total elderly
Male	156	3.2	475	5.4
Females	261	4.4	861	7.7
Total	417	3.8	1,336	6.7

If the proportion of the elderly who were not self-reliant in 2014 is held constant, the following shows the number of older person who will require assisted living in 2016 and 2037.

\* Professor Patama Vapattanawong, Ph.D. of IPSR estimated the number of Thai elderly who need assisted living by using data from the 2014 Survey of the Older Persons in Thailand (NSO) and Population Projections for Thailand, 2010-2040 (NESDB) to derive the proportion of elderly who are not self-sufficient for daily life activities

## 1.6.2

### Self-perceived health status of the elderly\*

The 2015 Survey on Health and Welfare (NSO) found that about half of elderly (age 60+ years) reported that they had a chronic illness or condition (e.g., diabetes, hypertension).

#### Percent elderly reporting two or more chronic illnesses or conditions in 2015



50%



61%



56%

36.8%

of males and

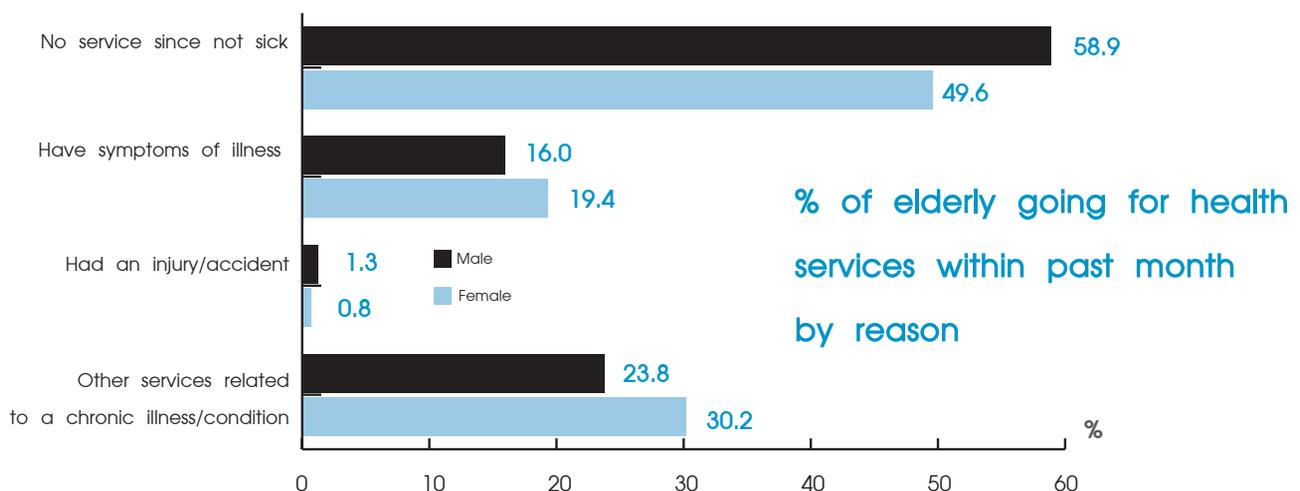
42.3%

of females

reporting two or more chronic illnesses or conditions

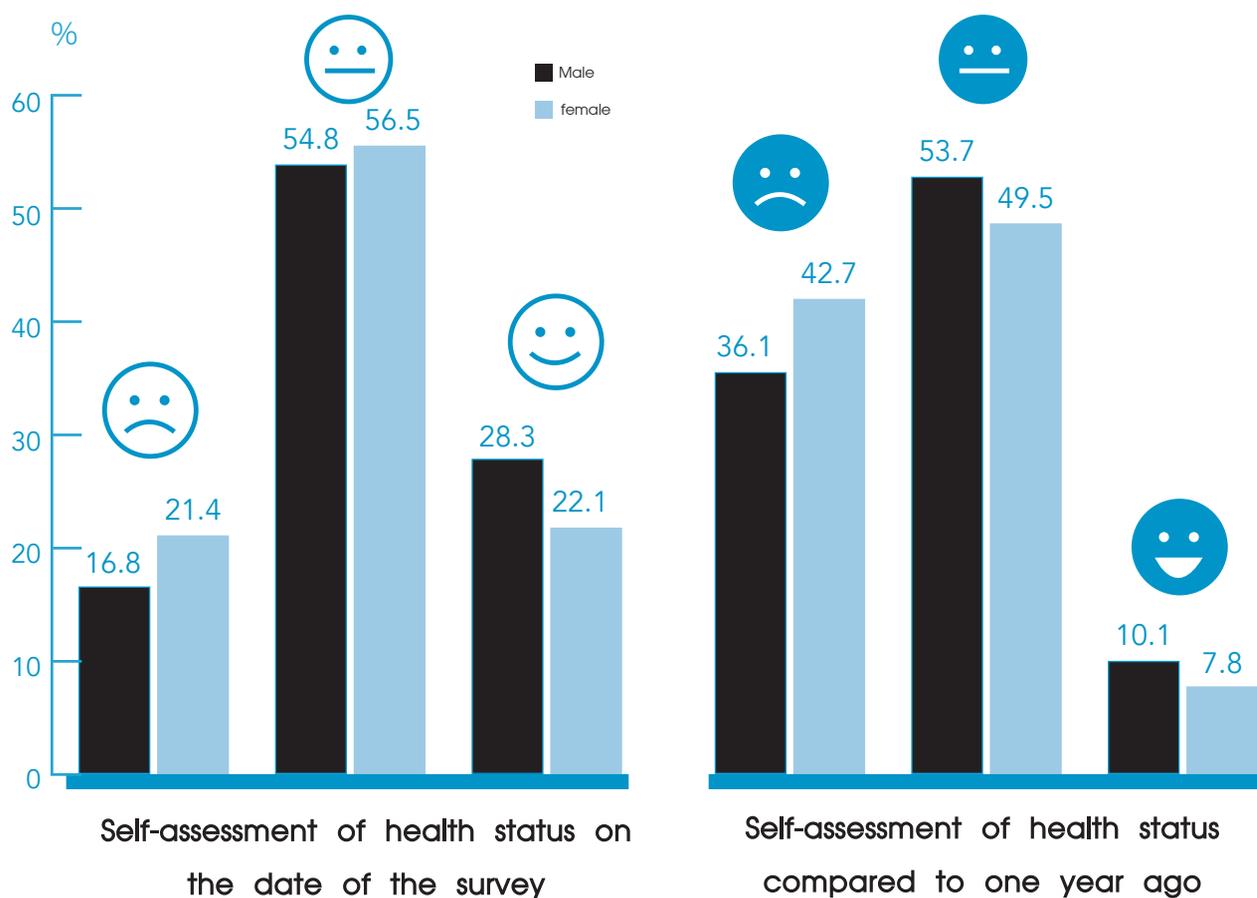
Source: Survey on Health and Welfare 2015, NSO

#### Percent elderly receiving public health service in the month prior to the survey by type of complaint:



\* Professor Patama Vapattanawong, Ph.D. of IPSR calculated self-perceived health status using data from the 2015 Survey on Health and Welfare of the NSO

The respondents were asked to assess their state of health as “good”, “moderate” (not good or bad) and “bad”. They were also asked to compare their health at the time of the interview with the same time one year ago as “worse”, the “same”, or “better”. More elderly males than females rated their health as “better” than in the previous year.



Source: Survey on Health and Welfare 2015, weighting by author

**Note:** The 2013 Survey of the Health Status of the Thai Elderly conducted by Department of Health collected data from a sample of 13,642 persons in 28 provinces throughout Thailand. The survey found that 1.5% of the sample were bed-ridden, while 19.0% were home-bound but could perform daily activities without assistance, i.e., they had mobility limitations which prevented them from traveling outside the home.

### 1.6.3

## Estimate of the number of elderly in Thailand with dementia\*

Dementia refers to a collection of symptoms of deterioration of mental function which impairs memory and distorts normal behavior, thought and personality.

Common causes of dementia include the following

(สิรินทร ฉันทศิริกาญจน, 2556):

1. **Decline of brain tissue of unknown cause.** The most common conditions for this include Alzheimer's and Parkinson's Disease;
2. **Stroke:** Persons with hypertension, diabetes and/or overweight have higher chances to set of stroke;
3. **Brain infection:** This may be an HIV-related infection or other pathology;
4. **Malnutrition:** The most common are deficiencies of B1 or B12, or folic acid;
5. **Irregular metabolic function:** This may include abnormal thyroid function, or liver and kidney malfunction;
6. **Concussion:** This refers to repeated blows to the skull, e.g., from accidental falls or collisions;
7. **Brain tumor:** This commonly refers to tumors in the frontal lobe of the brain;
8. **Brain thrombosis:** This is a condition of accumulation of brain fluid which can cause pressure on parts of the brain and accelerate deterioration;
9. **Consumption of drugs or substances which are toxic to the brain:** These substances include sleep inducers, anti-convulsants, anti-anxiety medicines, etc. If these are taken in large doses or accumulate over time, they may cause permanent damage to brain function;
10. **Vasculitis:** This refers to infection of the blood capillaries which can adversely affect blood flow to the brain.



\*Emeritus Professor Pramote Prasartkul, Ph.D. of IPSR estimated the number of elderly with symptoms of dementia by applying the proportion cited in Prince et al., 2013 and Estimates of the Population during 2010-40 by NESDB

Some of the consequences of elderly dementia include leaving the home by oneself and getting lost, being the victim of con schemes, and reduced ability to take care of oneself. Most persons with dementia need a person or persons to provide close care and monitoring. As a population ages, the prevalence of dementia is almost certain to increase. The progression and effects of dementia are likely to be more severe for elderly who live alone in the city. Prince et al. (2013) conducted an analysis to determine the estimated prevalence of dementia by age, sex and region around the world. The table below presents data for Southeast Asia.

### Prevalence (%) of cases of dementia by age and sex in Southeast Asia

Age	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	1.7	2.6	4.0	6.2	9.8	15.0	26.4
Female	1.8	3.0	5.1	9.0	15.9	27.2	54.9
Total	1.6	2.6	4.2	6.9	11.6	18.7	35.4

If one applies the prevalence rates in the above table to the Thai population, it is possible to estimate the number of cases of dementia among the Thai elderly as follows:



**Note:** Data from the 5<sup>th</sup> National Health Examination Survey (2014) found a prevalence rate for dementia among the elderly population of 8.1% (males: 6.8% and females 9.2%).

## 1.6.4

### Health manpower to provide services for the elderly

As people age into their advanced years, they become more vulnerable to injury and illness. In Thailand, where the population is aging at an alarming rate, it is imperative for the health service system to be prepared to meet the increased demand for eldercare. At present, there are serious shortages in the healthcare labor force to meet that demand.

#### Current level and distribution of healthcare personnel by area

Profession	Current number	Population per 1 practitioner	Source of data
Physician	50,573	1,292	Thai Medical Council Registry of Physicians (31 December 2015)
Nurse	158,317	419	Thailand Nursing and Midwifery Council (2016)
<b>Dental technician</b>			
Dentist	11,575	5,643	Bureau of Dental Health, MOPH (2015)
Dental auxiliary	6,818	9,581	Bureau of Dental Health, MOPH (2015)
Pharmacist	26,187	2,494	The Pharmacy Council of Thailand
Medical technologist	15,200	4,298	The Medical Technology Council
Physical therapist	10,065 (active:4,355)	6,490 (active:14,999)	Physical Therapy Council
<b>Public health personnel</b>			
Public health officer	24,035	2,416	Bureau of Policy and Strategy, MOPH
Community health worker	27,006	2,419	Bureau of Policy and Strategy, MOPH
Thai traditional medical practitioners	30,371	2,151	Thai Traditional Medical Council (2016)

Source: Human Resources for Health Research and Development Office (HRDO), 2017

## Thai senior citizens' clubs have the potential to play an important role in health promotion and care for the elderly

Many local administrative organizations (LAO) are supporting the creation of elderly clubs as a self-help strategy for senior citizens to define and help deliver services and recreational activities. These groups are a channel for sharing information, learning about rights, and expanding opportunities.

### Number of elderly clubs that are part of the network of the Association of the Senior Citizens' Council of Thailand by region (as of December 16, 2016)

Bangkok	391
Central	3,193
Northeast	12,257
North	8,618
South	1,804
<b>Total</b>	<b>26,263</b>

Source: Senior Citizens' Council of Thailand (SCCT)

Some of the key agencies providing care for the elderly in their locality are the sub-district Tambon Health Promotion Hospital (THPH), the district hospital, and the LAO.

#### In 2016, Thailand had the following:

26,263 registered senior citizens' clubs  
 9,750 THPH, 720 district hospitals, 2,441 municipalities, including  
 30 large cities, 178 medium-size cities,  
 2,233 Tambon municipalities,  
 5,334 Tambon administrative organizations (TAO)  
 2 special administrative areas (Bangkok and Pattaya)

**In 2016, Thailand had  
 26,263 registered  
 senior citizens'  
 clubs**

## 1.6.5

### Why Thailand has to urgently produce more healthcare providers for eldercare\*

At present, the world population is rapidly becoming an aged society. The older persons in a society are usually the most vulnerable to chronic disease and conditions which can lead to disability, both physically and mentally. The elderly use health services at a higher level than younger age groups. In addition, the health problems of the elderly are often uniquely different from those in younger generations. Thus, there is a need for more clinicians with training in geriatric medicine and eldercare.

The following are important differences between elderly patients and the general population:

1. As a person transitions to advanced age, the body undergoes certain changes in anatomy and physiology of all the vital organs and bodily systems;
2. The elderly may present with a “geriatric syndrome” which includes evidence of accidental falls and collisions, reduced ambulatory ability, delirium, dementia, reduced weight, frailty, etc. In the past, general physicians may not have been aware of this syndrome or how to deal with it. The default diagnosis in the past was “old age” when, in fact, the syndrome could be masking more serious but treatable conditions;
3. Elderly patients may present with multiple pathologies in a single visit, and these conditions may exacerbate each other;
4. Due to reduced mobility, many elderly may resort to consuming polypharmacy at the local drug shop or grocery which can produce drug resistance and adverse side effects;

\* Professor Prasert Asantachai, M.D., Faculty of Medicine, Siriraj Hospital, Mahidol University; and President of the Thai Society of Gerontology and Geriatric Medicine

5. The rapid changes in society due to modernization and urbanization can have deleterious effects on the elderly. These changes affect the care providers, socio-economic status, household and neighborhood environment, and many other dimensions of daily life of the elderly. Thus, there needs to be social care that is commensurate with the clinical and palliative care for the elderly.

Geriatric medicine is rapidly becoming a more important field of specialization to provide tailored care to the oldest generation and to develop innovative methods of conducting holistic assessments of the condition of elderly patients. Thus, eldercare requires a multi-disciplinary team approach for a seamless prevention-to-care continuum. This has to be complimented with a rehabilitation and monitoring service to ensure that discharged elderly patients can resume their routine daily activities near to or the same as before. This will require new types of personnel, especially geriatricians. Thailand cannot expect to merely integrate eldercare into the routine health system. Instead, clinical training needs to include specific modules on geriatric medicine, both for new students and in-service training for relevant personnel. This needs to be a cross-sectoral effort, for example, including dental care, nursing, pharmacies, physical therapists and other specialities.

As recently as 70 years ago, Thailand did not have a single pediatrician; children were treated by general practitioners. But today, if their child is sick, most Thai parents would opt for a pediatrician to care for their child. In the same way, a transition is occurring in Thai society whereby the exploding population of elderly will increasingly seek out services that are friendly and tailored to persons in their age group.

## References

- Prince, M. et al. (2013). The global prevalence of dementia: A systematic review and meta-analysis Alzheimer's & Dementia. *The Journal of the Alzheimer's Association*, 9 (1), 63 – 75.
- United Nations, Department of Economic and Social Affairs, Population Division. (2016). *World Population Prospect: The 2015 Revision*. United Nations: Department of Economic and Social Affairs.
- World Health Organization. (2002). *Proposed working definition of an older person in Africa for the MDS Project*. Retrieved from <http://www.who.int/healthinfo/survey/ageingdefnolder/en/>
- วิชัย เอกพลการ. (บก.). (2557). *รายงานการสำรวจสุขภาพประชาชนไทยโดยการตรวจร่างกาย ครั้งที่ 5 พ.ศ. 2557*. นนทบุรี: สถาบันวิจัยระบบสาธารณสุข.
- สิรินทร ฉันทศิริกาญจน. (2556). *คู่มือยืดอายุสมอง*. กรุงเทพฯ: รักลูกกรุ๊ป.
- สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. (2556). *การคาดประมาณประชากรของประเทศไทย พ.ศ. 2553-2583*. กรุงเทพฯ: สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ.
- สำนักงานวิจัยและพัฒนากำลังคนด้านสุขภาพ (สวค.) สำนักงานพัฒนานโยบายสุขภาพระหว่างประเทศ. (2560). *โครงการวิจัยเพื่อสังเคราะห์ทางเลือก และข้อเสนอเชิงนโยบายในการวางแผนความต้องการกำลังคนด้านสุขภาพของประเทศในทศวรรษหน้า*. นนทบุรี: สำนักงานพัฒนานโยบายสุขภาพระหว่างประเทศ.
- สำนักงานสถิติแห่งชาติ. (2543). *การสำรวจภาวะการทำงานของประชากร พ.ศ. 2543*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2548). *การสำรวจภาวะการทำงานของประชากร พ.ศ. 2548*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2553). *การสำรวจภาวะการทำงานของประชากร พ.ศ. 2553*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2554). *สำมะโนประชากรและเคหะ พ.ศ. 2553*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2557). *การสำรวจประชากรสูงอายุในประเทศไทย พ.ศ. 2557*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2557). *การสำรวจภาวะการทำงานของประชากร พ.ศ. 2557*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (2559). *การสำรวจอนามัยและสวัสดิการ พ.ศ. 2558*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *การสำรวจประชากรสูงอายุในประเทศไทย พ.ศ. 2545*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *การสำรวจประชากรสูงอายุในประเทศไทย พ.ศ. 2550*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *การสำรวจประชากรสูงอายุในประเทศไทย พ.ศ. 2554*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *สำมะโนประชากรและเคหะ พ.ศ. 2523*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *สำมะโนประชากรและเคหะ พ.ศ. 2533*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- \_\_\_\_\_. (ม.ป.ป.). *สำมะโนประชากรและเคหะ พ.ศ. 2543*. กรุงเทพฯ: สำนักงานสถิติแห่งชาติ.
- สำนักบริหารการทะเบียน กรมการปกครอง กระทรวงมหาดไทย. (2559). *ระบบสถิติทางการทะเบียน*. สืบค้นจาก <http://stat.bora.dopa.go.th/stat/statnew/statTDD/> เมื่อ 18 พฤษภาคม 2560
- สำนักพัฒนาฐานข้อมูลและตัวชี้วัดภาวะสังคม สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. (2557). *สถิติเผยแพร่*. สืบค้นจาก <http://social.nesdb.go.th/social/Default.aspx?tabid=131> เมื่อ 18 พฤษภาคม 2560
- สำนักส่งเสริมสุขภาพ กรมอนามัย. (2556). *รายงานการสำรวจสุขภาพผู้สูงอายุไทย ปี 2556 ภายใต้แผนงานส่งเสริมสุขภาพผู้สูงอายุและผู้พิการ*. นนทบุรี: กรมอนามัย.

# 2.

Access to  
Health Services  
of the Elderly



## 2.1

# Health care for the elderly and policy on health services provision\*

### Context

- The situation of “fast aging but slow enrichment” of Thai society is a challenge to the Thai society which is affected by inequity across many dimensions in the socio-economic, political and environmental context.
- The health of Thai elderly tends to deteriorate in many areas. One of the many reasons is the lack of access to essential health services. This is especially true for elderly who live alone or have limited mobility. The rights provided by the Universal Health Coverage Scheme – UHC (or the Gold Card<sup>1</sup>) are less than the Civil Servant Medical Benefit Scheme (CSMBS<sup>2</sup>).
- While the elderly population is expanding, the working-age population is shrinking. As a result, there will be greater dependency of older persons on fewer wage earners.
- The instability of Thai political system poses a significant obstacle to the nation’s long term development.

\* Professor Paibul Suriyawongpaisal, M.D., Faculty of Medicine, Ramatibodi Hospital, Mahidol University

<sup>1</sup> All Thais are covered by Thailand’s Universal Health Coverage Scheme, which guarantee their access to health care/ services, Unless he/she previously insured by other health insurance schemes, such as CSMBS, Social Security Scheme, the incurred cost will be covered by other schemes.

<sup>2</sup> The CSMBS payment is “fee for service” reimbursement system and applies to any health outlet, not just the registered facility as in the UHC

แก่เรื้อ  
รวยช้า

แก่เรื้อ  
รวยช้า

แก่เรื้อ  
รวยช้า

## Policy options

1. The health services needs to be refined in order to create a seamless care and referral system. This may require new transportation and shuttle bus options to improve access for dependent elderly or those living alone. The new transportation system can take many forms, depending on the local context. The Local Authority Organization (LAO) should be actively involved in developing these systems.
2. The effectiveness of eldercare outside of the clinical setting needs to be improved, especially home-and community-based care.
3. A campaign on rational drug use needs to be introduced in order to reduce the incidence of side effects which are a significant cause of hospitalization.
4. The effectiveness of health promotion/disease prevention needs to be improved, with a special focus on diabetes, hypertension, accidental falls, and mental health. These efforts should begin when the person is still working-age or middle-age.
5. The elderly should be encouraged to engage in exercise, recreation and socialization activities. This may require an improvement in transportation systems and more access to green areas. The elderly need to be assured of safety of life and their properties, and the access to primary health care system.
6. An accurate and timely information system needs to be employed tracking changes related to the elderly.
7. To evaluate the progress of each policy and plan, these indicators need to be taken into consideration; (1) Necessity and genuine usefulness; (2) Academic credibility; (3) Feasibility of data collection; and (4) Internal consistency with other indicators and balance across dimensions and goals.

# Academic findings which support the above seven policy options

## Vision of an optimal elderly society

Whether viewed from an individual or a societal level, there needs to be some concept of what desirable aging is and how to achieve it.

This issue has been debated over the past 50 years or more and, still, there is no consensus on what a successful aged society looks like. **Healthy aging** is a term used widely in the USA, Europe, Australia and many countries in Asia. Achieving healthy aging is somewhat thwarted by the lack of an operational definition of what it means. The “healthy” dimension overlaps with such dimensions as “successful,” “active,” “productive,” “positive,” etc., which, in turn, are subjective and lack any universal definition.

“Healthy aging” doesn’t simply refer to a condition of the elderly, but is a process that develops from birth to achieve the status of healthy (physical, mental, social), self-reliance, quality of life, and smooth transitioning through the stages of life. The aging process over the full spectrum of life occurs within the context of changing external threats which, at any time, can strike randomly to create disability or vulnerability to future illness as one becomes elderly.

Healthy aging can be viewed across multiple dimensions of daily life and as part of the adaptation of physical, mental and social existence to minimize distress or suffering. This is done in the context of culture and traditions, and this concept

of aging is consistent with the 2nd National Plan on the Elderly 2002-21. The plan specifies five strategies to elevate the status of the Thai elderly, with 60 indicators to measure success. This vision holds that how its population ages reflects the success of the society. The plan also defines five dimensions of quality of life of the elderly, including physical/mental health, happiness in the family, a supporting community, a safe and appropriate environment, and guaranteed security.

Some countries (e.g., Ireland) which have achieved a degree of success in healthy aging of its population have a society which supports and accepts the elderly, and encourages them to play an active role in the economy, society, culture, community and family. Those societies promote positive inter-generational relationships. The elderly conduct their daily life in an atmosphere of equality, dignity, pride, and independence. The elderly have confidence that they will be cared for in every instance of need. It is realistic to assume that Thailand can achieve this vision as well as the goals of the 2nd National Plan for the Elderly. Over time, through multi-sectoral implementation, the concept of healthy aging from the Thai perspective will crystallize.

ผู้สูงวัย  
เป็นหลักชัย  
ของสังคม

## Achievement of access to equitable universal coverage services

The need for healthcare services of the elderly can be classified as follows: acute, intermediate, long-term, and palliative/end-of-life care. And it is well aware that, not only Thailand but also around the world, the health service systems has been designed to respond to acute conditions, which could lead to better access rather than other types of services.

Statistics on access to services for the elderly under UHC show that the increasing of out-patient (OP) visits from 5.8% in 2012 to 6.9% in 2016, while in-patient volume was constant over that same period. Since three-fourths of Thais are eligible for UHC, the increasing of elderly OP visits could be implied to the improvement of the service system.

Over the past decades, Thailand has been improving care services for chronic diseases both in quantity and quality. At present, chronic diseases are prioritized diseases at all levels of health facilities. Hypertension and diabetes are commonly used as examples to show the thoroughness distribution of chronic care services.

The National Health Examination Survey in 2014 found that 63% of diabetics and 70% of hypertensives received screening service, which is an increase of coverage from about 50% in a previous survey ten years ago. In addition, the same survey

also revealed that under the treatment and counseling for behavior change, over one-third of the elderly patients of both diseases were able to control disease conditions.

The three compulsory health insurance schemes (CSMBS, Social Security Scheme:SSS, UHC) recently launched the benefit packages for intermediate and palliative care. Over the past five years, the Ministry of Public Health (MOPH), as the main service provider, also reconfirm clear policies and strategies on quality services based on the new benefit packages. The strategies including “The health service regions (Cluster) policy” that providing integrated care and services to every age group in 12 health regions and Bangkok; “Family Care Team policy” which focuses on improving services for four groups of population including the elderly, patients with chronic diseases, the disabled, and end-of-life patients. Most recently, the MOPH has issued the policy on improving the long-term care system in collaboration with the National Health Security Office (NHSO) and other related agencies.

The 2009 National Health Assembly that stated its resolution on quality care for dependent elderly, was assumed to be the succession of the movement on long term care policy. Samrit Sritamrongsawat et al (2017) (สัมฤทธิ์ ศรีธำรงค์สวัสดิ์ และคณะ, 2560) conducted an evaluation of the implementation of the MOPH long-term care policy during 2013-17.

The data from 12 health service regions confirmed that the prevalence of self-dependent elderly increased. This evaluation report, however, found some obstacles in budget utilization which made the LAO be reluctant to employ

ทั่วถึง  
และเท่าเทียม ทั่วถึง  
และเท่าเทียม

caregivers who responsible for providing daily care to elderly in community. Thus the implementation of home and community-based long-term care has not progressed much in the first two years (2016-2017).

With regard to the equity access to services among elderly group, it is noted that the proportion of Thai elderly living alone is increasing. This group has ability to access to care less than the one who lives with his/her partner or caregiver. The related factor is the ability to commute or access to public transports, especially in rural area where also consume more traveling cost.

Given these concerns, many LAO are trying to better meet the needs of the elderly and disabled by providing transport options and improve accessibility to healthcare. Unfortunately, this role of the LAO does not clearly endorsed and has restricted the ability of the LAO to allocate budget for this purpose.

Considering equity access to care between CSMBS and UHC found four-fold for out-patient care and ten-fold for in-patient care. There are at least two main factors for this differential in access:

1. Economic status: There are significant differences in the economic status of the elderly under UHC and former civil servants. This also related with ability to commute and living alone. It is to confirm that only health insurance cannot guarantee equity in access to care. To rectify this inequity, the Ministry of the Interior (MOI) should pay attention in decentralization or expand the LAO's roles and financial support in subsidizing services for elderly to access to health care. .
2. The payment method and rates of CSMBS and UHC are different. As a result, the cost of services per capita per year under the CSMBS is 3-times higher than UHC.

Other factors may effect to access to care of the elderly:

1. Preferential services for elderly clients. For example, the Srinakarin Hospital of Khon Kaen University has an express lane for elderly patients, provides wheel chairs as needed, and has special toilet rooms for the elderly. In addition, the hospital has created a one-stop service for the elderly so that they only need to visit one clinic in the facility to address all their needs.
2. Public-private collaboration. For example, since 2007, the access to cataract surgery for the elderly has increased. This form of collaboration need to be greatly expanded in the future due to the higher needs of the growing elderly population and increasing of urbanization. The new model of management and financial support would be created to meet the needs of the elderly.
3. Intermediate care is one strategy to bridge the gap between acute care in the hospital and home-based care. After the critical period of acute condition which requiring hospitalization (e.g., stroke), the patient could be transferred to stabilized in lower level of care in order to save the complicated services for others who needed. But the family are not yet well prepared to take care of the patient. The middle level of care or intermediate care facilities, which would be better if it is located closer to home, are needed. Some provinces are trying out models of intermediate care such as Saraburi, Songkhla, and Surat Thani Provinces. The evaluation and lesson-learn from the experiences would be useful for future planning.

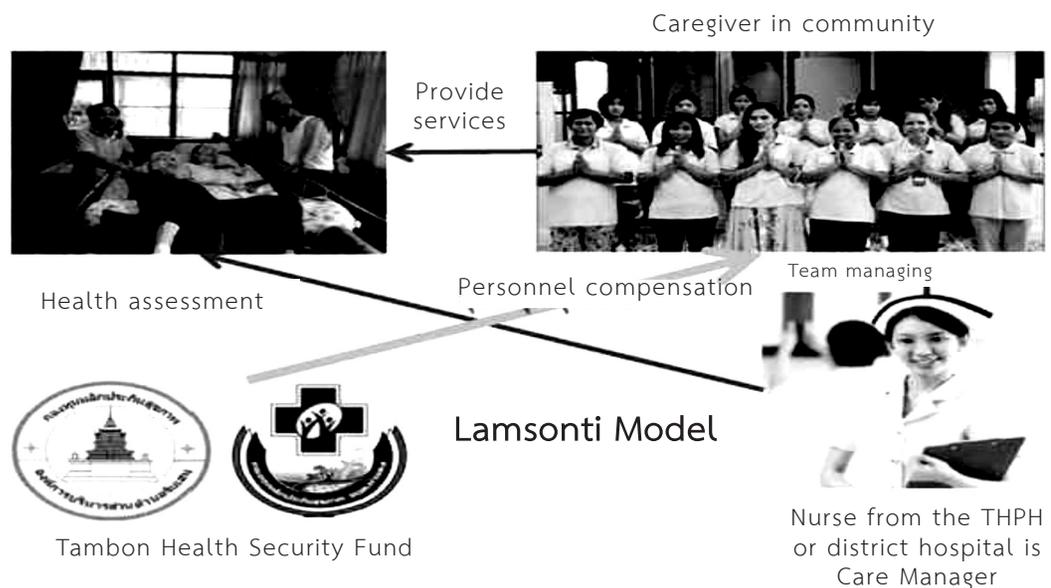
## Integrated service system

The sequential rounds of the National Health Examination Survey show that the health of the elderly population is in decline. Elderly are at increased risk of accident, chronic diseases and other risk factors. Many elderly patients have repeated illness, develop complications and need comprehensive social and medical care especially bed-ridden patients which require a multi-disciplinary team approach with periodic home visits. Besides long-term care, elderly patients often involve re-hospitalization and long-stayed hospitalization with acute complications from chronic illness due to inadequate of long term care, side-effects from multiple drugs use or families with ill elderly members in the household feel obligated and pressure to have them admitted at a hospital to reduce the burden on the household for the family members

Lamsonti Hospital is one of the best model, which was set as the standard model for the seamless continuum of long term care, through home – hospital – home by multi-disciplinary team, in the Thai health system. After the Thai government instituted the policy to develop the system of long-term care for dependent elderly, the Lamsonti model of integrated care was ready for expansion (in 2016). The government allocated 600 million baht of social services to support this project, initially distributed to 1,752 Tambon (sub-districts). These Tambon had an estimated 80,000 residents who were elderly, and one out of five were bed-ridden. In anticipation of the growing number of elderly and the expansion of the program, the government has allocated 900 million baht for 2017 for long-term care.

The system of a hospital-to-home continuum of care for the elderly is potentially a significant intervention to meet the needs of elderly with acute complications from the chronic diseases and conditions which many Thai elderly have. This continuum of care would be seamless in that the patient would have all their health needs addressed in a smooth transition among practitioners, clinical facilities and the home. It needs not matter which point in the continuum the case is first seen. This system needs to provide full coverage across three dimensions: the client-provider relationship; the flow of relevant data; and the provider-provider relationship.

For example, there is the case of a woman, age 92, who experienced an accidental fall, resulting in her hip bone being broken. Her right hip was permanently damaged by the fall and, if she did not receive continuous monitoring and care after being discharged, then it was possible that she would suffer infection as a result of bed sores or irritation to the affected area, requiring more visits to the hospital. This woman’s situation is further compromised due to the fact that she is mostly home alone and, with her disability, cannot easily move around to perform daily necessities. A continuum-of-care system would fill these gaps to prevent recurrent hospitalization of the elderly.



## Healthcare for acute and chronic conditions

Acute care for elderly is remained an important and urgent area of improvement in Thailand in order to prevent elderly from becoming dependent. The case mentioned earlier makes a question to the curative measure to the broken hip patient. The feasibility of preventive hip replacement surgery and physical therapy instead of pelvic traction to enable her to walk normally before the break occurs. This question is linked with the issue of the limitations of subsidized services. In the past, UHC patients could only obtain coverage for an artificial hip surgery, but not for the post-surgical physical therapy, which is different from the subsidy for cases of stroke which does cover acute medical care within four hours and post-treatment physical therapy. The goal in all these cases is to return the elderly patient to self-sufficiency and reduce preventable dependency on the healthcare system or long-term care.

Complications of accidental falls often include damage to the hip bone or, conversely, degradation of the hip leads to accidental falls. Another factor is the use of multiple concurrent drugs to treat various conditions which may have side effects which lead to accidental falls. Thus, Thailand needs to review its drug prescribing practices for elderly patients to ensure that only the minimum necessary drugs are used. Thais, particularly those of the older generation, believe that, if they see a doctor, they should get something tangible in return, even if it is not indicated. Thus, many clinicians prescribe unnecessary medicines due to patient demand. To address these issues, in 2014 the MOPH launched a program to promote rational drug use in the hospital setting. 205 public hospitals are participating in the program as of this report. However, there is no central data system to evaluate the success of this program so far.

## End-of-life and palliative care

In cases where a beloved, elderly family member is nearing the end of life, there is a tendency for younger relatives to pursue extraordinary care and interventions, almost as a filial obligation. Given advanced technology, relatives of the dying sometimes pressure clinicians to try interventions that are not indicated by medical guidelines. This practice is the main factor behind ballooning costs of medical care for terminal illness or condition. In general, cost of care increases as one progresses from primary, to secondary, to tertiary levels. The family care Team policy of 2015 includes a focus on the primary care system of chronic care for the elderly and disabled, as well as end-of-life care. Later, The Ministry of Public Health introduced the “primary care cluster” to address both cost control while maintaining a minimum standard of quality. As of this status report, there is not enough data to assess how well this approach is working for the elderly and to what the extent of coverage is. This primary care strategy has been shown to reduce hospital stays for patients in Brazil and Western Europe, especially for complications of diabetes and hypertension.

## Health promotion and prevention of disease

Thailand is entering an era of an epidemic of chronic diseases as reflected in the table showing common illnesses of the elderly. In fact, many of these conditions can be prevented. According to the WHO, three important areas for prevention include smoking, nutrition, and exercise. These three dimensions account for at least half of the chronic illness which the Thai elderly face.

Ten most important causes of disability-adjusted life-years (DALY) among the elderly in Thailand

		Males			Females		
	Disease	DALY ('000)	%	%	DALY ('000)	Disease	
1	Cerebrovascular	224	10.6	12.2	270	Cerebrovascular	
2	COPD	173	8.2	10.8	239	Diabetes	
3	Diabetes	131	6.2	6.0	132	Myocardial infarction	
4	Myocardial infarction	127	6.0	5.4	119	Cataracts	
5	Liver cancer	104	4.9	4.7	104	Dementia	
6	Alcohol addiction	94	4.5	3.3	74	Depression	
7	Cataracts	92	4.4	3.0	66	Nephritis and nephrosis	
8	Lung and laryngeal cancer	82	3.9	2.9	65	Deafness	
9	Prostatic hyperplasia	53	2.5	2.8	62	Liver cancer	
10	Deafness	47	2.2	2.7	60	COPD	
	Others	982	46.5	46.0	1,017	Others	
	Total	2,110	100.0	100.0	2,208	Total	

Source: Report of the Status of Disease and Injury in the Thai Population 2013

Thailand has received international praise for its 30-year campaign to reduce smoking, and the campaign continues today. This success is the result of a macro-policy to control the sale and use of tobacco products and influence market mechanisms to reduce the lure of smoking. Structural interventions include wide expansion of designated non-smoking zones in public areas. Nevertheless, smoking is still quite prevalent, more so in rural than urban areas, and more among the poorer, than the middle- and higher-income segments of the population. More worrisome is that smoking is increasing among adolescents. Thus, the challenge for Thailand to further reduce smoking prevalence is considerable. Regarding healthy exercise, the results of the 4th Thai National Health Examination Survey (2009) (วิชัย เอกพลากร, 2552) can be compared with the 5th (latest) round of this survey (วิชัย เอกพลากร, 2557). Together, these two surveys show an alarming decline in moderate to heavy healthy exercise from 32-47% to 19% among persons age 60-69, from 35-30% to 16% among persons age 70-79 years, and from 25-15% to 13% in persons age 80 years or older. There are significant distinctions in this indicator for persons in rural and urban areas, and among occupations.

King (2001) conducted a review of the literature on methods of motivating people at different ages to engage in healthy group exercise. Most of the focus of the research was on exercise involving parents with their children. However some researchers pointed out that there should be more emphasis on exercise involving the elderly and their grandchildren. Later, Van der Bij et al (2002) observed that, to be successful in the longer-term, measures to promote healthy exercise should consider personal preferences and ideas, and offer multiple options for exercise. Primary service outlets could play an important role in promoting healthy exercise among the elderly since senior citizens are common clients of these services. Bauman et al. (2016) found that long-term and intensive interventions in multiple contexts (e.g., safe spaces in the community, the workplace, clinical facility) can be effective in changing behavior and habits. However, it was also found that stand-alone interventions which promoted healthy exercise in the home, in groups or as part of a health education campaign were less successful or sustainable (than multiple, reinforcing interventions).

A study was conducted in Oregon (USA) on the promotion of Tai Chi for the elderly as a form of healthy exercise through 36 senior citizens centers during 2012-16. The evaluation found that the acceptance rate for Tai Chi as healthy exercise was 89%, and coverage of the program of the elderly in the catchment area of the centers was 90%. This program was able to reduce accidental falls by 49% and improved physical performance. These studies raise the question of how successful examples from abroad can be applied to the Thai context. Related to this is the importance of public transportation from the home neighborhood to centers which offer group exercise for health. A study in the USA found that nearly two million disabled persons are home-bound and, of these, one in four had limited access to transportation (Li et al, 2016).

Addressing the issue of public transportation needs of the elderly may be beyond the scope of this 2016 situation assessment. However, that does not mean that the healthcare outlets should be passive in bridging the transportation gap for elderly in need of services. In the past, the MOPH and other agencies in the health sector have tried to improve transportation links with the healthcare system in the same way they are conducting the anti-smoking campaign.

In considering the kaleidoscope of factors affecting elderly health status and access to services, it is instructive to review the evaluation of the WHO-Thai Collaboration across five dimensions: control of chronic disease, prevention of traffic-related injury, health and international trade, community health system, and disaster preparedness during the period of 2012-16 (TGRI, 2016). That evaluation found weaknesses in the area of strategic and implementation planning, the role of the MOPH in mobilizing collaboration among sectors to create a unified front, and monitoring and evaluation. An overarching challenge is how to transfer knowledge to practice. All this has to be considered in the Thai political context, and the lack of political continuity.

The political identity of Thai politics has been evolving in a new direction, at least over the past two decades. For example, the Thai Road Safety Program (launched in 2003) was vulnerable to the frequent changes in the Deputy Prime Minister in their capacity as Chairperson of the Facilitation of the Road Safety Program (and this change of leadership happened too often). The changes at the top had a ripple effect on changes of other key personnel and representatives from related departments on the Program Committee. This severely disrupted continuity of the Program. Thus, it was very difficult to achieve a unified front, as prescribed by the WHO experts.

## References

- Bauman, A., Merom, D., Bull, F. C., Buchner, D. M., & Singh, M. A. F. (2016). Updating the Evidence for Physical Activity: Summative Reviews of the Epidemiological Evidence, Prevalence, and Interventions to Promote “Active Aging”. *Gerontologist*. 56 Suppl 2:S268-80.
- Foundation of Thai Gerontology Research and Development Institute (TGRI). (2016). *A comprehensive mapping on health care delivery system under Thai health system in aging society*. WHO registration 2016.
- King, A.C. (2001). Interventions to Promote Physical Activity by Older Adults. *Journals of Gerontology: SERIES A*. 56A (Special Issue II):36–46.
- Li, F., Harmer, P., & Fitzgerald, K. (2016). Implementing an Evidence-Based Fall Prevention Intervention in Community Senior Centers. *American Journal of Public Health*, 106(11), 2026–2031. <http://doi.org/10.2105/AJPH.2016.303386>
- Van der Bij, A. K., Laurant, M. G. H., & Wensing, M. (2002). Effectiveness of physical activity interventions for older adults: a review. *Am J Prev Med*. 22(2): 120-33.
- วิชัย เอกพลากร. (บรรณาธิการ). (2552). *การสำรวจสถานะสุขภาพประชาชนไทยโดยการตรวจร่างกาย ครั้งที่ 4 (พ.ศ.2551-2)*. นนทบุรี: เดอะกราฟิโกซิสเต็มส์ จำกัด.
- วิชัย เอกพลากร. (บรรณาธิการ). (2557). *รายงานการสำรวจสุขภาพประชาชนไทยโดยการตรวจร่างกายครั้งที่ 5 พ.ศ. 2557*. นนทบุรี: สถาบันวิจัยระบบสาธารณสุข.
- สัมฤทธิ์ ศรีอำรงสวัสดิ์, ไพบุลย์ สุริยะวงศ์ไพศาล และวิรัช เกษมทรัพย์. (2560). *รายงานเบื้องต้น โครงการประเมินผลนโยบาย การพัฒนาระบบการดูแลระยะยาว 2559-2560*. (ม.ป.ท.).
- สำนักงานพัฒนานโยบายสุขภาพระหว่างประเทศ. (2558). *รายงานภาวะโรคและการบาดเจ็บของประชากรไทย พ.ศ. 2556*. นนทบุรี: มูลนิธิเพื่อการพัฒนาสุขภาพระหว่างประเทศ.



## 2.2

# Community rehabilitation centers improve access to care for the elderly\*

Having to travel to a clinical facility for follow-up care three or four times a week can impose a cost burden on the elderly patient and accompanying care provider. There is also the loss in time for the travel and waiting time for treatment. The danger is that, if the travel burden is too great, the elderly patient might simply drop out of follow-up rehabilitation, which carries the risk of permanent disability and becoming bed-ridden.

It is crucial to initiate rehabilitation eight to 12 weeks after an acute, adverse event such as stroke with partial paralysis. After that, the rehabilitation needs to be maintained for at least six to eight weeks for the elderly patient to return to a condition where s/he can perform routine daily activities on their own. If rehabilitation is delayed too long or done sporadically, then it is very unlikely that the elderly patient can return to normal functionality.

Thus, the concept of a community-based rehabilitation center is one option that would be most appropriate for elderly cases in the neighborhood who need post-hospitalization care. Such a center would be convenient given its proximity to the older person's home. It would also be in a familiar setting and, thus, would be much more client-friendly than a crowded hospital in town. Most important, the cost of travel would be virtually nothing.

\* Emeritus Professor Pongsiri Pratanadi, M.D., Advisor, Branch Association of Senior Citizen Council of Thailand, Chiang Mai; AgeNet Chiang Mai

Chiang Mai Province is experimenting with three models of a local rehabilitation center, under different mechanisms of management.

---

**Model 1:**

In this model, the center is established and operated by the locality, such as the Tambon municipality. An example of this is the center in Nongpakrang Tambon Municipality in Muang District and Nongtong Pattana Tambon Municipality in Hang Dong District.

**Model 2:**

In this model, the center is established in a Buddhist monastery (wat) with the abbot as the team leader in collaboration with the district hospital and Civil Society. An example of this model is Wat Huay Kiang in San Sai District. After ten years of implementation, the Disabled Development Foundation took over management of this center.

**Model 3:**

In this model, the center is also located in a wat but services are managed by the district hospital or Civil Society. Examples of this approach can be seen in Sarapee, Sanpatong, Mae Wang and Jom Thong Districts, among many others.

No matter which model is applied, each one relies on collaboration of the implementing team to be successful. For example, the team would include staff from the district hospital and the Tambon Health Promotion Hospital, members of the local senior citizens club, village health volunteers, the Tambon chief (Kamnan) and the village headman. The team members need to collaborate in an integrated way, with active participation by all. It could be called a Chiang Mai social movement or “AgeNet”, i.e., a network of organizations supporting the elderly at the Tambon and district levels.



## Intermediate care

Intermediate care for the elderly is a process of continuing care for older patients after they are discharged from the hospital. This form of care is indicated for cases which have been admitted for an acute condition and have stabilized enough that they can be discharged, but when the home is still not ready or equipped to provide the follow-up care and monitoring. This way, the hospital can free up beds for the next cases who need acute, hospital-based care. Intermediate care ensures that the elderly patient receives the necessary clinical attention until the family is ready to take over the essential tasks.

Currently, there is no system of intermediate care that is linked with the government hospital. Thus, in many cases, elderly patients are discharged before the patient is physically or mentally fit, or the home is not yet ready to assume the post-hospitalization care responsibility.

Ideally, an intermediate care facility would bridge the gap between the hospital and home, and would provide nearby, convenient access for both patient and family. Such a rehabilitation center would help the elderly patient to adjust to their new health status and actively participate in the rehabilitation process so that they can return to a relatively normal daily life.

The intermediate care facility would probably include some clinical care and referral, rehabilitation through physical therapy, and activities which encourage social and mental rehabilitation allowing for a gradual return to normal. The intermediate care clients would learn how to care for themselves, giving them enough confidence to return home for good. The period of stay at such a facility might be from two to four weeks, depending on the nature of the health condition. Appropriate sites for an intermediate care facility include the community-based rehabilitation center or a similar facility that is not too far from the elderly patient's home. The facility should be convenient to access and allow for out-patient visits combined with rehabilitation as needed.

The concept of intermediate care is a rather new concept in the Thai clinical care system. Currently, the Thai public hospitals are geared toward treating acute cases and discharging them as soon as possible. However, elderly with acute conditions may need more time to recover and, thus, may not be physically or mentally ready for discharge, even when the attending clinicians say it is time to return home and care for themselves. They need more time to adjust, including their family members who are to assume the primary care of the elderly patient post-hospitalization. Without a smooth and proper transition, the family could experience stress and tension.



Thus, intermediate care is an important and urgent need for the Thai continuum of care system, especially for the growing caseload of elderly with acute conditions requiring some hospitalization. The intermediate care facility can also train the relatives and primary care providers in the elderly patient's household how to provide proper care and rehabilitation. This will help greatly to ease the concerns and burden on all concerned, and return happiness to the family.

3.

Highlights  
of the Year

“At present, Thai elderly can still expect to live in the family household and be supported by younger relatives. However, this option is becoming less available as the working-age population declines and adult children move away from the family home to urban areas. While the population of the elderly increases, their family support systems are in decline. Thus, there needs to be a new paradigm for housing, care and quality of life promotion for the elderly.”

Interview on July 17<sup>th</sup>, 2017

## ● 3.1

Ever since 2007, the National Committee on Elderly has recognized a “National Elderly Person” for each year. The criteria for selection are that the person has made positive contributions to society over a long period of time, and has the morals and ethics to service as a model, honorable citizen.



# Dr. Snoh Unakul

The National Elderly Person for the Year 2016



## Honorable Mention

### Dr. Snoh Unakul The National Elderly Person for the Year 2016

Dr. Snoh was born on July 24<sup>th</sup>, 1931.

He received a diploma in accounting from Thammasat University; a Bachelor's Degree (Commerce) from University of Melbourne; and a Master's Degree and Ph.D. (Economics) from Columbia University.

After completing his formal education, Dr. Snoh took a position at the National Economic Development Board (currently NESDB). That was the time when the 1st National Economic Development Plan was being formulated, and Dr. Snoh played a key role in plan development. Dr. Snoh helped modernize Thailand's budgeting system to conform to international standards. Dr. Snoh also played a key role in the development and advocacy of the 2nd and 3rd National Plans. In 1972, Dr. Snoh was appointed Deputy Permanent Secretary of the Ministry of Commerce.

After the political changes in 1973, Dr. Snoh was appointed Secretary-General of NESDB by then Prime Minister Sanya Dharmasakti.

In 1975, Prime Minister Kukrit Pramoj appointed Dr. Snoh to the position of Governor of the Bank of Thailand. In that position, Dr. Snoh addressed problems of cash flow in the commercial banking sector and modified the exchange rate by linking the Thai baht to a basket of currencies, not just the US dollar.

During the government of Prem Tinsulanonda, Dr. Snoh resigned as Governor of the Bank of Thailand in order to enter the monkhood for a period of introspection. After leaving the monkhood, Dr. Snoh was reappointed as Secretary-General of the NESDB in 1980. During the time of the 5th and 6th NESDB Plans, the government policies were to redistribute income to the rural areas and develop the Eastern Seaboard sub-region of central Thailand, including construction of the Laem Chabang deep-sea port and the Map Ta Put Industrial Estate. Dr. Snoh also helped found the Thailand Development Research Institute (TDRI), which was the first “think tank” in the country.

In 2010, Dr. Snoh helped with the bi-lateral agreement with Japan to use Thailand as a principal site for Japanese industrial development in the region. For his efforts, Dr. Snoh received the “Grand Cordon of the Order of the Rising Sun” presented by Emperor Hirohito.

Even after Dr. Snoh retired from government service, he remained very active in government affairs. In 1991, Anand Panyarachun was appointed interim Prime Minister, and he appointed Dr. Snoh to serve as Deputy Prime Minister (on economy). During that time, Dr. Snoh was active in tax reform, revision of obsolete laws, and modifying policy on the environment, education and labor. After completing his tenure as Deputy Prime Minister, Dr. Snoh scaled back all his formal activities, but has continued to serve as advisor and board member for many businesses and organizations up to the present.



## Education

- 1981: National Defense College, Class No. 24
- 1984: Honorary Doctorate (Economics) Chulalongkorn University
- 1985: Honorary Doctorate (Commerce) Thammasat University
- 1988: Honorary Doctorate (Economics) Srinakharinwirot University
- 1989: Honorary Doctorate (Economics) Thammasat University
- 1991: Honorary Doctorate (Economics) NIDA
- 1993: Honorary Doctorate (Economics) Burapa University
- 1998: Honorary Doctorate (Economics) Khon Kaen University

## Experience

- 1972-1975, 1977-1979: Member of the National Assembly
- 1973-1974: Deputy Permanent Secretary of Commerce
- 1973-1975: Secretary-General, NESDB
- 1975-1979: Governor of the Bank of Thailand
- 1980-1989: Secretary-General, NESDB
- 1981-1991: Senator
- 1991-1992: Deputy Prime Minister
- 1991-1992: President of Burapa University
- 1992-1995: Chairman of the Board: Bank of Asia
- 2010: Chairperson of the selection committee  
for the Governor of the Bangkok of Thailand

## Other positions

- Since 1984: Chairman of the TDRI Foundation
- Since 1992: Board member: Dole (Thailand) Co.
- Since 1993: Board member: Crown Property Bureau
- Since 2006: Board member: Ladawan Fund Co.
- Since 2009: Chairman of the Board: Siam Bio-Science Co.
- Since 2011: Chairman of the Board: Apexcela Co.
- Since 2011: Deputy Chairman: Buddhadasa Indapanno Archives



“Preparing oneself for the unknown future  
is an important responsibility.

The government, i.e., the Ministry of Finance, is cognizant of this challenge and is looking for ways to help Thai citizens save enough for retirement. Saving must begin from the start of one’s working years to ensure there is enough for necessities in retirement. Clearly the current government elderly subsidy of 600 baht per month is not enough. There must be other ways to support the elderly financially.”

Interview on July 17<sup>th</sup>, 2017

“Regarding conducting oneself near the end of life, there is one question that inspires me:

‘How does one grow old gracefully and die peacefully?’

Part of achieving happiness in advanced age is knowing what is just enough for oneself and no more. There is no need for luxury or too soft a living. As we age, we must become less materialistic.

Even to this day,  
I am still  
pondering the  
above question...”

เสนาะ อุณาภูล. (2552).

อัตชีวประวัติและงานของเสนาะ อุณาภูล. กรุงเทพฯ: สถาบันวิจัยเพื่อการพัฒนาประเทศไทย. หน้า 251





## 3.2

# The value of the elderly: Thai National Artists of 2016

The Department for Cultural Promotion of the Ministry of Culture regularly announces “National Artist” recognition so that their contributions to culture and society can be recognized and praised. These individuals are instrumental in enhancing and preserving Thai cultural traditions and creations. They are truly model citizens who embody morality, ethics, and benevolence. For the Year 2016, the Department of Cultural Promotion has announced the following 12 persons as National Artists of the Year (11 of whom are age 60 or over).






---

## Ruangurai Kusalasai

(Literature)

---

Ms. Ruangurai is age 96 and was born on June 21, 1920 in Bangkok. She has collaborated with her husband, Karuna Kusalasai (National Artist of 2003). She has translated the Buddhist Epic into Thai from source materials in South Asia. She has used the pen name of Karun-Ruangurai but also has a large volume of work in her own name. Her translations are not only accurate but she adds a Thai flourish to them as well. Her translations are easy to read yet retain the profound meaning of the source material. She has provided a priceless addition to the Thai literary heritage.




---

## Chuwong Chayachinda

(Literature)

---

Ms. Chuwong is 86 years and was born on December 25, 1930 in Bangkok. She has been producing works of literature for over six decades. She has published over 100 novels, many of which have romantic themes which highlight the attributes of the virtuous Thai lady as steadfast, loving, and good-hearted in overcoming life challenges. Her style moves in a smooth flow of prose. She also embeds concepts of Karmic Law in her stories. She hopes that her fiction inspires understanding and empathy for fellow humans.




---

## Saner Niladech

(Traditional Thai Architecture)

---

Mr. Saner is 82 years old and was born on June 20, 1934 in Saraburi Province. He is an expert in creative architectural design as it links culture, history, antiquity, and symbolism. He is an advisor and board member of related government agencies involved in conservation of historical Thai architecture, for example, the Si Thep Historical Park, the Si Satchanalai Historical Park, and the Project to Preserve the Phra Thinang Wehart Chamrun Royal Throne.



## Lawan Upa-in

(Visual Arts-Painting)

Ms. Lawan is 81 years old and was born on January 12, 1935 in Bangkok. She is an accomplished drawer of portraits and received the Royal Honor by King Rama IX to paint Royal Portraits for display in various locations.



## Sombat Metanee

(Performing Arts-Film and TV)

Mr. Sombat is 79 years old and was born on June 26, 1937 in Ubon Ratchathani Province. He is the most popular film artist of his generation and has performed in numerous television dramas and shows. He has directed and produced films as well. Mr. Sombat has an entry in the Guinness Book of World Records as the male protagonist in more films than anyone else in history: 617. He has remained very physically fit throughout his life and up to the present. He gives great importance to regular healthy exercise.



## Khamsorn Srathong

(Visual Fine Arts-Weaving)

Ms. Khamsorn is 77 years old and was born on September 1, 1939 in Kalasin Province. She developed intricate methods and patterns of silk weaving, and is the founder and head the Phrae Wa Silk Weavers Enterprise in her home province. Her group has produced commemorative bolts of silk cloth for King Rama IX and Queen Sirikit, such as a 99-meter single piece of silk cloth with 60 designs, and a 9-meter single piece of cloth with 10 designs and 43 rows.



**Buariao**  
**Ratanamaneeporn**

(Performing Arts: Traditional Thai Dance)

Ms. Buariao is 70 years old and was born on September 22, 1946 in Chiang Rai Province. She is an expert in the Fon Ram Thai dance and has created a modified Fon Sao Mai variation. This variation has become a unique attribute of Chiang Rai and has spread well beyond its provincial borders.



**Hama**  
**Baeluebae**

(Performing Arts-Dikir Hulu)

Mr. Hama is 67 years old and was born on January 1, 1949, in Yala Province. He is a star performer of the Dikir Hulu tradition, and is able to mix both Thai and Malay local dialects into his performances. The presentation is modernized and face-paced while promoting understanding and good relationships between Thailand and Malaysia. This tradition helps unify the people of the three southernmost provinces of Thailand. It is so popular that it has now been incorporated in the school curriculum of these provinces.



**Thanit**  
**Siiklindii**

(Performing Arts-Thai Popular Music)

Mr. Thanit is 65 years old and was born on January 23, 1947 in Singburi Province. He is proficient in numerous traditional Thai instruments, but mostly the “Klui” or Thai flute. He famously popularized this instrument in the Carabao Band’s smash hit “Made in Thailand.” He performed a commemorative song for King Rama IX called “Our Highest Dream,” which inspires all Thais to unite.



## Decho Buranabunpot

(Visual Arts-Photography)

Mr. Decho is 63 years old and was born on December 6, 1953 in Nakhon Pathom. He was honored to be selected to take the official portrait photograph of the Supreme Patriarch of Thailand (Nyanasamvara Suvaddhana) which was distributed widely. He was also given the honor by Queen Sirikit to take pictures of her during official trips abroad.



## Thanya Sangkapanthanon

(Literature)

Mr. Tanya is age 60 and was born on May 26, 1956 in Pattalung Province. He writes fiction under the pen name Paitoon Thanya. His first collection of short stories “Kaw Gong Sai” won the S.E.A. Write award for 1987. He has since produced more collections of short stories, novels, poetry and other writings, many of which are still in print today and have been translated into other languages. His themes reflect a profound social consciousness and empathy for ordinary folk and the down-trodden. That way, he gives a powerful voice to the marginalized members of society.



## Saksiri Meesomsueb

(Literature)

Mr. Saksiri is age 59 and was born on August 23, 1957 in Chainat Province. Over a period of three decades, he has produced works of poetry, prose and other styles of expression. His works reflect a creative spirit and literary invention. His themes concern how people get caught up in social currents while struggling to retain their inner self and dignity in the face of undignified situations.



## 3.3

# Care for dependent elderly

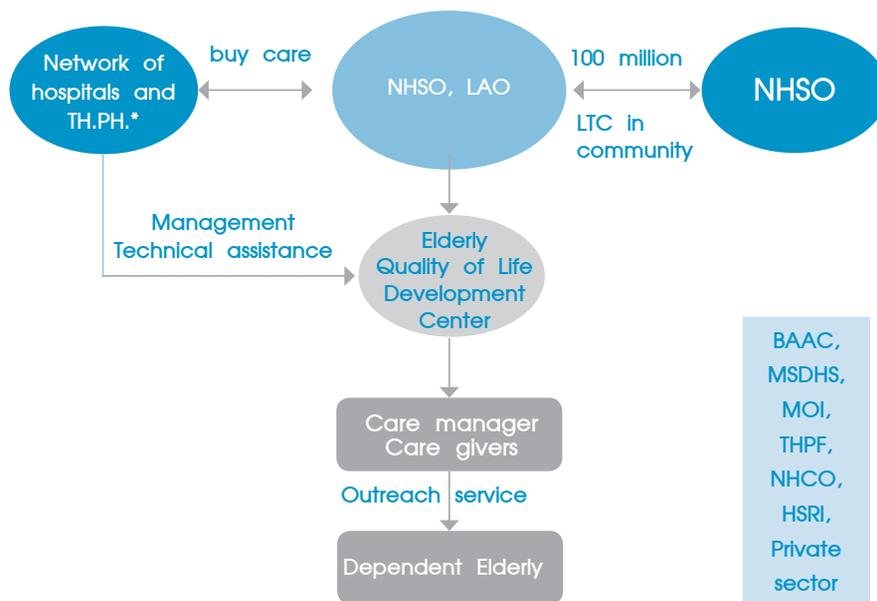
In 2015, the MOPH launched the Family Care Team Program as a strategy to expand coverage of the population in need. The team also gives priority to elderly who cannot easily travel to a healthcare outlet – especially those who are home-bound or bed-ridden.

The team is comprised of clinical and health personnel from a variety of specialties. The team includes personnel from the local health/clinical outlet, and those from the district or provincial hospital. The team may include a physician, nurse, public health specialist, physio-therapist, and community volunteers (e.g., village health volunteer). The team does not passively wait at the service outlet for cases to appear. As needed, the team will conduct outreach to the community and even the household to ensure that coverage is maximized. The team has up-to-date data on the health status of the population in its catchment area. Thus, it is as if the team is part of the extended family of the person in need of care.

In 2016, the Thai government allocated budget through the NHSO in the amount of 600 million baht for healthcare of the elderly. The MOPH collaborated with the NHSO and LAO to achieve the 2016 targets to extend healthcare to dependent elderly – both the home-bound and bed-ridden. The number of elderly estimated to be bed-ridden is 100,000 persons (with coverage of 10% of the target).

The Family Care Program Team includes a Care Manager and assistant Caregiver to focus on dependent elderly. Both these personnel receive formal training and are registered in their positions. The Department of Health has produced training curricula for the Care Manager and Caregiver, and has applied the curricula in training events since 2015. In 2016, a total of 3,252 persons completed the care manager training and, combined with the 551 persons trained in 2015, yields a cumulative total of 3,803 care managers at the time of this report. In addition, a total of 27,696 assistant caregivers have been trained.

### 100 million baht for long-term care (LTC)



**Note:** The package of benefits for long-term clinical care is in accordance with the Subcommittee for Long-term Care for the Dependent Elderly, or as specified by the NHSO.

\*TH. PH. Tambon Health Promoting Hospital

Source: National Health Security Office

## Attributes of the care manager:

1. Age 25 years or older
2. Has at least a bachelor's degree in medicine, nursing or midwifery, and practical experience of at least three years
3. Has at least a bachelor's degree in a non-clinical field but with at least three years' experience providing care to the elderly
4. Has no history of unethical behavior or bias against the elderly
5. Has a medical certificate attesting to sound body and mind  
(The course is 70 hours and qualifies for 50 credits with the Continuing Nursing Education system)

---

One care manager can be responsible for 35 to 40 elderly cases, while one caregiver can have a caseload of 7 to 10 elderly persons who are home-bound. The care manager can mentor four to five caregivers. The goal of the program is to have all home-bound elderly in reach of a care manager and caregiver.

---

## Attributes of the elderly caregiver

1. Age 18 years or older
2. Has at least primary education
3. Is physically and mentally prepared to care for the elderly
4. Has completed the Department of Health training curriculum or equivalent (at least 70 hours).



## 3.4

# Declaration of the elderly and Thai programs for the elderly

Thailand became an aged society over ten years ago (in 2005) and, in the near future, will become a complete-aged society. Compared to countries in Europe and East Asia, Thailand is a relative newcomer to the group of aged societies. Compared to other developing countries and most of the ASEAN members, however, Thailand is among the first to become an aged society. Thus, Thailand's senior managers and policy makers are becoming increasingly concerned about how to meet the challenge of this rapid demographic change.

At the global level, Thailand has participated in the two World Assemblies on Aging, the first in Vienna (1982) and the second in Madrid (2002). In the 2<sup>nd</sup> World Assembly on Aging, there was a resolution to adopt an International Plan of Action on Aging, focusing on three dimensions of aging: (1) Older persons and development; (2) Advancing health and well-being into old age; (3) Ensuring enabling and supportive environments.



In the ASEAN region, the issue of an aging society is also of considerable interest to member countries. There is increased concern about the changing age structure of the population which is propelling an increase in the proportion of the regional population that is elderly. Among ASEAN member countries, Thailand will have become a complete-aged society by 2030. A key principle of ASEAN is that development should be people-centered, and no segment of society should be neglected or left behind. Thus, ASEAN countries are becoming increasingly concerned about their ability to care for and support the burgeoning population of elderly in their midst. ASEAN members have codified their concern about this issue through various declarations, as summarized below.

#### **The 2010 Brunei Darussalam Declaration on Strengthening Family**

Core content of this declaration includes a commitment to increase inter-country collaboration on care and support for the elderly through appropriate models of service. The emphasis is on the role of the family and community in helping the elderly to build their own capacity to thrive. Additional emphasis is given to promoting the quality of life of the elderly by creating an environment which enables the elderly to be self-reliant.

#### **The 2015 Kuala Lumpur Declaration on Aging: Empowering older Person in ASEAN.**

The core content of this declaration includes a call for improving the systems of care, health and social services to meet the new challenges of the emerging aging society. There is an emphasis on elderly health promotion so that they can remain strong, ambitious, and creative for as long as possible. This declaration also calls for creating an enabling and supportive environment for the elderly.

**Thailand advocated for the creation of the ASEAN Centre on Active Aging and Innovation (ACAI) as a forum to exchange data and lessons learned in caring for the elderly and how ASEAN member countries are adapting to an aging society. This Center is an outgrowth of the ASEAN declarations and policy for people-centered development and not leaving any segment of the population behind.**

During the 2016 ASEAN Plus Three Summit in Vientiane, Thailand advocated for the ASEAN Plus Three Statement on Active Aging which is a continuation of the Kuala Lumpur declaration, and was endorsed by ASEAN member country participants and the leaders of China, Japan and South Korea. Key content of the summit proceedings includes support for adding the topic of ‘quality aging’ to the national agenda, with an emphasis on three dimensions: (1) Elderly care and health; (2) Economic empowerment; and (3) Supportive environment for inclusive society.

For its part, Thailand passed the 2003 Elderly Persons Act and produced the National Plan for the Elderly for 2002-21, amended in 2009<sup>1</sup>. This Plan is linked with the five-year NESDB development plans. In addition, from the 9th NESDB Plan (2012-16) up to the present plan<sup>2</sup>, there has been reference to the need to accommodate the increasing number of the elderly population in Thailand. This reflects the awareness and concern of Thai planners and policy makers about the need to improve policy, programs and services for the elderly.

<sup>1</sup>This plan was the first of its kind in Thailand and is an important national mechanism to define the direction and advocacy for comprehensive elderly development programs.

<sup>2</sup>The NESDB plans have long stipulated that the elderly must be supported and cared for throughout the remainder of their life. However from the ninth plan onward, the plans specifically highlight the changing age structure of the population and the challenge of accommodating such a rapidly aging society.

## Older persons and development

### Development and labor force participation

- Extend the mandatory age of retirement
- Create employment centers for the elderly
- Modify taxation of elderly workers
- Create assemblies of the elderly
- Create senior citizens groups in each Tambon

### Income security

- Elderly welfare subsidy
- National savings fund
- Elderly fund
- Credit for elderly housing
- Integrate the pension systems

## Advancing health and well-being into old age

- Universal health insurance
- Care for home-bound elderly
- Creation of express lanes at government offices and hospitals
- Screening for cases of dementia

---

## Enabling and supporting environments

- Create senior residential complexes
- Modify the environment and housing so that it is elderly-friendly
- Make government offices and hospitals elderly-accessible using universal design principles
- Provide subsidized access to mass transit for the elderly

Thailand has introduced a large number of measures and implemented interventions to benefit the elderly. The following are examples of how Thailand is applying recommendations from the Madrid International Action Plan on Aging.



## 3.5

# Thai cabinet resolution on the elderly of November 8<sup>th</sup>, 2016

Four measures for assisting the elderly





## Measure # 1

---

### Hiring the elderly

Any business which hires a worker age 60 years or older may claim a tax deduction of twice the amount levied on the monthly wages for workers earning no more than 15,000 baht a month. This deduction is applicable for no more than 10% of the total workforce, and does not apply to shareholders, board members or managers of the company.

This measure would extend the working age for many elderly and reduce the image of the elderly as a burden to society. Instead, they would start to be seen as a value to production. This would also help address issues of labor shortages in the younger working-age population.



## Measure # 2

---

### Affordable housing for the elderly

This measure addresses the need for housing that is elderly-friendly. This measure calls for the construction of rental housing, initially in four complexes in Chonburi, Nakorn Nayok, Chiang Rai and Chiang Mai Provinces. The complexes would cover a total of 135 rai. This would be in addition to the public housing of the National Housing Authority, the Government Housing Bank, and the Community Organization Development Institute. This measure also calls for extending credit for housing to the elderly, including pre- and post-financing.



## Measure # 3

---

### Reverse mortgages for the elderly

This measure would provide loan funds for persons age 60 or older who own their house (or condo) and land outright with no outstanding obligations. This way, elderly homeowners can convert part of the equity into cash, either as a lump sum payout or as an annuity until death or the end-date of the mortgage. Upon death, the land and house become the property of the lending bank. This option should be especially attractive for those persons who are not government civil servants and those not having a secure pension plan. It is also appropriate for elderly who do not have younger relatives to provide financial assistance to them – a group of the population that is increasing rapidly.



## Measure # 4

---

### Integration of pension plans

This measure calls for the creation of a committee on national pension policy with the Prime Minister as Chairman. The committee would produce policy recommendations for the direction, development and maintenance of the pension schemes. The measure also calls for the creation of a National Pension Fund as a safety net for workers in the formal labor sector, government and private labor, contract hires by the government, and state enterprise workers age 15-60 years who are not already covered by a secure pension fund. Both the worker and employer would be obligated to pay into the fund. The worker would be eligible for disbursements from their pension upon reaching age 60. This system is scheduled to start enrollment in 2018.



## 3.6

# Media recognition of the consequences of an aging Thai society

The terms “elderly” or “older person” are appearing with increasing frequency in various media, including newspapers, magazines, radio and television.





## Print Media

Skip Navigation Links was used to search for terms related to the elderly. The search found that, in 2016, “elderly” was cited 12,420 times, followed by 3,124 citations of “older persons,” 3,114 citations of “aged person,” and about 2,000 citations for other terms denoting old person. More citations of “elderly” were found in newspapers such as Daily News, Matichon, and Kom Chad Luek.

## TV

Television is a popular media channel for the elderly, and possibly the most important one in 2016. In 2016, there were six TV programs whose principal content was about the elderly:

1. **“Soong Wai Jai Kern Roi”** (i.e., the elderly as super achievers),  
airs every Tuesday during 2:00 – 2:30 p.m.  
and Sunday from 5:30 – 6:00 a.m.  
on NBT of the Public Relations Department;
2. **“Lui Mai Ruu Rooy”** (i.e., age is just a number),  
airs every Wednesday and Thursday from 6:00-7:00 a.m. with rebroadcast  
on Friday from 6:30-7:00 a.m. on Thai PBS;
3. **“Young@Heart”**,  
airs every Saturday and Sunday from 5:00 to 6:00 a.m. on Thai PBS;
4. **“Yod Manut Pa”** (i.e., Super Auntie),  
airs every Sunday from 3:00 – 4:00 p.m. on the Thai Rath channel;
5. **“Chatting about Thailand”**,  
airs every Saturday and Sunday from 8:00 – 9:00 a.m. on digital TV; and
6. **“Gen O(LD) aging together”**  
airs every Wednesday from 8:00 – 9:00 p.m. on Thai PBS.

## Radio

MCOT (Mass Communication Organization of Thailand) has launched a radio program with the elderly as the target audience. This is the first of its kind and has music and narrative content. It is an AM station on the frequency of 1494 MHz;

“Happy and Healthy” airs on the Thai Army radio station at 102 FM every Saturday during 9:00 – 10:00 a.m. The program features discussion by a physician about healthy aging, and the program takes calls from listeners.



## 3.7

# Financial products for the elderly

Over two-thirds of Thai elderly have savings in terms of deposits with finance agencies or life insurance. They also have financial reserves in terms of real estate, gold/jewelry, or stocks (NSO, 2014). These data show that many elderly have the capacity to save. All financial institutions in Thailand have products that are targeted to the elderly, so there are many savings options. Saving for retirement is imperative for today's working-age population. Waiting until retirement to start saving is far too late. Cost of living is increasing every year, and there needs to be a reserve fund for unexpected adverse events, which can be costly. Financial institutions are well aware of the rapid aging of the population and are offering more and more products for savings accounts and life insurance. In addition, some banks are offering savings accounts to the elderly with higher interest rates than for the younger customer. Some insurance companies are offering life insurance without the need for a physical exam.





## Financial products for the elderly in 2016

Product	Conditions	Benefits
Elderly savings account	50 years or older	The interest rate is higher than for younger customers but there is a cap on the amount of the deposit
Combined financial product and insurance	Age 55-70 years	There is a cap on the amount invested; In the event of death or accident, the full amount of coverage is reimbursable under certain conditions
Life insurance without the need for a health exam	Elderly with a chronic illness can still buy life insurance	This is collectable upon death. If death due to a pre-existing condition occurs with 1 to 2 years of buying the policy, then only the amount of the premiums paid is reimbursable. If death is accidental then the full amount of the stated benefit is reimbursable.
Lifetime insurance and savings	General population	Upon death of the policy holder, the beneficiary receives the benefit in installments
Pension insurance		This helps with savings for retirement and is payable in a lump sum or annuity



## 3.8

# Innovations for the elderly

The growing population of elderly in Thailand and around the world is driving innovation to maintain or improve the quality of life as age begins to take its toll. This section of the status report presents examples of some of the creative innovations that Thais have developed to help the elderly cope with and recover from physical limitations, or simply to make daily life a little easier and more convenient.





## Rehabilitation health aids for the elderly

### Coconut shell for targeted pressure

The knob on the coconut shell enables the user to massage a part of the body that is sore or atrophied by improving blood flow to the area and stimulates nerve connections. Just as with a foot massage, this self-massage technique can help relax the entire body and ease stress.

(Developed by First Physio)



### Coconut shells as a stretching apparatus

The two shells are connected with a length of rubber band rope. The shells are then pulled apart as a muscle strengthening device. This can be used by elderly who are bed-ridden or who cannot easily move around. This device can also help strengthen bones and speed rehabilitation from osteoporosis.

(Developed by Community Partners in Nakhon Pathom Province)



## Parallel bars and wooden balls for foot massage

This innovation is suitable for persons who need to build up their physical strength or to treat pain or numbness in the feet, calf or entire leg. The user stands on the mat of wooden balls and holds the parallel bars for balance and weight distribution. Next the users walks to and fro. This also helps the elderly user to regain walking skills and endurance, especially for those who are recovering from minor paralysis.

(Developed by the Ruam Jit Tambon Health Promotion Hospital in Thapla District of Uttaradit Province)



## Plastic arch for shoulder therapy

This device is to help elderly regain upper body strength which has eroded due to disease, inadequate blood flow, nervous disorder, or joint dysfunction. The user moves the wooden square which has been fitted on an arched length of PVC pipe. The wooden square is to be moved from the base of the pipe on one side to the base on the other, using one arm only, and then alternating to the other arm. The weight of lifting can be increased by attaching a small sand bag to the wrist while doing the exercise.

(Developed by the Ruam Jit Tambon Health Promotion Hospital in Thapla District of Uttaradit Province)





## Innovative conveniences to improve daily activities of the elderly



### Rice container

This is a bio-plastic container designed to make it easier to open and close a rice container for elderly who might be becoming frail. There is a clear click sound when the container lid is properly in place. This container can also be used for storing other foods and is microwavable. It can even be used as a vessel for eating out of, just as any serving dish.

(Developed by Bioform – Thailand)

### Elderly-friendly cane

This adaptation of the standard walking cane can be made from wood that is locally available in the elderly's home community. That way, it can be tailored to the height of the user. A rubber cap is placed over the base of the cane to prevent slippage.

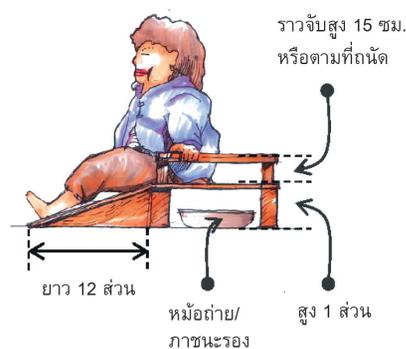
(Developed by the Universal Design Research Unit of Chulalongkorn University)



## Brace stool for the elderly and persons who use a wheelchair

In the words of the developer: “We have designed a stool to assist movement of the elderly. The arm was designed with one arm on the side to help a person lift themselves up. The body is automatically twisted so that they can move forward to the table easily. This was designed as a small stool that can fit into any environment, and can serve all people. The opening space of the stool can assist mobility in case the person needs to shift to a wheelchair.” This stool helps prevent accidental falls. It is made of teak so that it can be used indoors and outdoors or in bathrooms.

(Developed by the Deesawat Industries Co., Ltd)



## Sliding toilet

This adaptation of the seated toilet is made out of wood and does not require a flush tank. It is designed for persons with impaired mobility. Only the arms are required to steer the body over the receptacle.

(Developed by the Faculty of Nursing, Naresuan University)



## Shoe cabinet

This piece of furniture was designed specifically for the elderly who might have difficulty opening a standard wardrobe or storage cabinet door. Thus, this uses a hanging curtain instead of a door. This also includes a small bench to sit on while putting on one's shoes. Studies have found that a common cause of accidental falls among the elderly is putting on shoes while standing.

(Developed by the Grandis Industry, Ltd.)



## Smart watch for the elderly

### G2i Emergency Watch

The innovative aspect of this watch is that it converts to a cell phone by pressing a button on the watch face. The phone has an automatic dial for emergency service or home. If there is no answer at the first number or the line is busy, then the phone will automatically dial alternate numbers until there is a response.



### I-smart-Android Smart Watch

This watch sounds an alarm if the user is more than five meters away from their phone. It also sounds an alarm if the user is sitting or lying too long in the same position.



### UPro watch

This was designed for children but can also be useful for those elderly suffering from memory loss or early-onset Alzheimer's disease. This watch sends a signal of the user's location to the home or caregiver. Thus, if the elderly walks out of the house unaccompanied and loses their way, their relatives or guardian can locate them instantly. This device can also define a safe perimeter beyond which the users relatives or guardian are alerted when the user has strayed beyond the safety zone.



### Lifely safty watch

This watch comes with four pill boxes and will alert the user to take prescribed medicine. It also counts the number of steps the user takes during the day.



### MyKronoz-ZeFit2 Model

This was designed to help the elderly user track the number of steps they take, the distance walked, and the calories burned each day. It also has a measure of the quality of sleep the user had. It has an alarm and reminder clock for taking medicines or wake-up alert.

## ● Accidental fall detection system

Accidental falls among the elderly can have dire consequences. Each fall carries the risk of a broken bone. There is risk of complications, and some fall victims lose their ability to walk at all or become confined to a wheelchair. This greatly diminishes the ability of the elderly to care for themselves, and most have to be dependent on others for constant care and monitoring.



### Accidental fall detection system in the home of the elderly

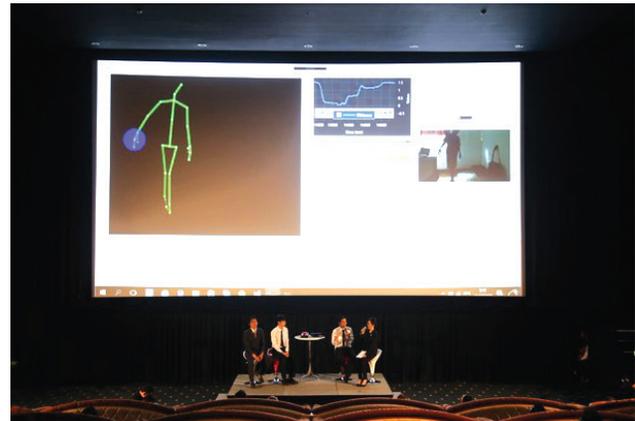
The NECTEC conference in 2016 featured a system for accidental fall detected developed by students from Srinakharinwirot University. The system has two components: two close-circuit surveillance cameras and electronic messaging to the caregiver immediately when an accidental fall happens.

Source: <http://www.manager.co.th/cyberbiz/ViewNews.aspx?NewsID=9590000027722>

## Fall Detection V.1- Surveillance of elderly accidental falls

Ratchaphol Kaemphukiao and Suthibun Chuwitaya, students at King Mongkut's Institute of Technology (Ladkrabang Campus), also developed a video monitoring and alert messaging system without the need to attach any sensors to the user. The system uses infrared technology which can operate even in complete darkness or in the bathroom. The system focuses on the bone structure only and, therefore, does not violate the privacy of the user. A siren is activated when the user falls, and a text message is sent to the caregiver.

Source: <https://www.dailynews.co.th/article/556432>



## Elderly surveillance system

Nopakun Wachira-angsana, a student at Mahidol University, created a system of logging the location coordinates of elderly at their home using a smart phone which the user keeps on their person. This is better than GPS which cannot accurately pinpoint the location of someone when they are inside of a building. The system can be used to analyze the movement of the user during the day, and provide warnings to relatives or caregivers when the posture or position of the user is suddenly unusual or abnormal.

Source: <http://www.manager.co.th/cyberbiz/ViewNews.aspx?News-ID=9590000027722>



# 4

Research  
on the Thai Aging  
Society, 2016

## 4.1

### A study on achievement in elderly health policy implementation of MOPH hospitals: A case study on elderly clinic

Krisana Triyamaneerat, Nitikul Thongnuam, and Apiwan Nuttamonwarakul  
Institute of Geriatric Medicine, Department of Medical Services, MOPH

---

Research conducted in 2013, with funding from the Department of Medical Services

#### Objectives

1. To study the process and related factors in converting policy to practice in an MOPH agency;
2. To produce recommendations for applying policy to plans and action for elderly programs of the MOPH

#### Methodology

This study used both quantitative and qualitative data collection methods. The qualitative portion included in-depth interviews with four groups of key informants: (1) Policy makers involved in establishing geriatric medicine clinics (Permanent Secretary and Deputy Permanent Secretary of the MOPH, Chief government inspector, Director of the Geriatric Medicine Institute, members of the National Committee for the Elderly); (2) Senior managers (Provincial Health Office Director, Directors of hospitals with at least 120 beds); (3) Personnel who work on the policy to establish geriatric medicine clinics; and (4) Clients of the clinics. The quantitative portion included data collection in hospitals under the Department of Medical Services, and hospitals at all levels under the Office of the Permanent Secretary of the MOPH with at least 120 beds (N = 119 facilities).

## Results

This study found gaps in applying the elderly health policy to practice in MOPH hospitals as follows:

1. The policy to establish geriatric medicine clinics was issued in a top-down fashion, without enough consultation with relevant others;
2. Communicating the policy and providing support was in the form of one-way communications. Communication was more in the form of a directive rather than by consensus;
3. There is a shortage of personnel, especially geriatric medicine specialists. There is also a shortage of nurses, physio-therapists, psychologists, and social workers;
4. Support for establishing the clinics did not include capacity building of the ground personnel and managers;
5. The indicators and evaluation of policy and implementation of the clinics by the Institute has not been timely enough or collaborative enough or tailored to the local context;
6. The responsible authorities at the provincial level and hospital level understood the policy mandate of the MOPH;
7. The hospitals at all levels had a certain degree of autonomy in how they chose to implement the policy and, accordingly, they made some changes due to other external factors in the establishment of the clinics.

## Recommendations

Communicating policy from the central level to the service level agencies requires an intermediary agency to ensure two-way flow of communication and to obtain buy-in from the field. Policy should not be mandated from the top down. The context and autonomy of the implementing agency needs to be taken into consideration when formulating and implementing a new policy.

## 4.2

### A Study of the prototype of the integration of a long-term care system for dependent older persons

Wiraporn Pothisiri, Vipap Prachuabmoh, Worawet Suwanrada, Siriwan Siriboon, Busarin Bangkaew, and Chanettee Milintangul

College of Population Studies, Chulalongkorn University

---

This research was conducted in 2016, with funding from NESDB

#### Objectives

1. To distill lessons learned from a system of long-term care for the elderly through integrated collaboration among clinical outlets, academic institutions, LAO, the community and family;
2. To define mechanisms for advocating long-term care systems for the elderly and ensuring quality of life that is tailored to the local context.

#### Methodology

Data were collected from two sources: (1) Primary data collection through focus group discussions and in-depth interviews with key informants, including organization leaders, local leaders, experts, and representatives of public and non-government organizations which work with the elderly and formulate policy. Interviewees included village health volunteers, eldercare volunteers and members of senior citizens groups; (2) Secondary data came from a review of related research and documents from government agencies, and other documentation, both domestic and international. Field work for this research was conducted in 11 sites of nine provinces.

## Results

### Personnel

#### Strength or opportunity:

- Rural – a supportive lifestyle helps make the volunteer system work
- Urban – capacity of the medical staff is high
- In Bangkok – the community leader plays a key role in developing the long-term care system from the very start

#### Weakness or limitation:

- Rural – the multi-disciplinary team has both quantitative and qualitative limitations; the volunteers lack adequate knowledge in caring for the elderly
- Urban – the staff lack a connection with the locality, and they lack knowledge about family medicine and diseases of the elderly
- Bangkok – religious institutions do not yet have a clear role in care for the elderly

### Budgeting and finance

#### Strength or opportunity:

- Rural – there are multiple sources of budget
- Urban – there is adequate budget and activities to cover all dimensions
- Bangkok – the Bangkok Metropolitan Administration (BMA) has its own budget and have independence in managing their budget

#### Weakness or limitation:

- Rural – some locations have mechanisms to create budgets to provide long-term care for the elderly but face obstacles in the rules and regulations on use of that budget
- Bangkok – The district offices do not have budget to address quality of life needs of the elderly, and this causes a lack of continuity of action

## Management

### Strength or opportunity:

- Rural – home visits are an important activity to promote learning among team members and family medicine team members to promote clear areas of responsibility
- Urban – there is a committee to support social services for the elderly in the province; the province plays an important role in developing plans for long-term care of the elderly
- Bangkok – there is a BMA plan to improve quality of life of the elderly, and there are community health centers which are the primary care outlet for the elderly

### Weakness or limitation:

In urban and rural areas and Bangkok there is a shortage of knowledgeable and skilled staff in data collection and analysis.

The review of the literature found that there are four key mechanisms for delivering integrated care for the elderly: (1) Having a public space; (2) Data management; (3) Management of services; and (4) Steady source of budget for supporting long-term care for the elderly.

## Recommendations

There needs to be an intermediate mechanism to support integrated long-term care, develop innovative technology to assist the elderly in daily activities, planning for the number and type of personnel needed to provide long-term care, and development of standards of care. The government needs to urgently integrate data on quality of life of the elderly, readiness of the younger population to help care for aging relatives, and creation of a database with essential information on the elderly and long-term care.



## 4.3

### Review of literature on health and long-term care of the elderly in the context of laws and legislation

Kanongnij Sribuaiam, Nattaporn Nakornin, Chattames Pirompanich, Tian-Ngern Uttarachai, Jongswat Pisitpunporn, Sipim Wiwatwattana, Warut Songsujaritkul, and Parun Rutjanathamrong

Faculty of Law, Chulalongkorn University

---

This research was conducted in 2011, with financial support from the Elderly Quality of Life Improvement Program of the Thai Health Promotion Foundation.

#### **Objectives**

1. To study policy and legal measures related to elderly health and long-term care of the elderly in Thailand;
2. To organize existing knowledge and propose feasible measures for further research.

#### **Methodology**

This study involved the compilation of data and review of literature on policy and legal measures related to elderly health and care, and the organization of information on laws to study the overall policy and legal environment for each dimension.

## Results

### Key laws related to elderly health and long-term care

#### 1. 2007 Thai constitution

- Article 53 does not specifically protect the rights of all elderly; only those who age into the elderly years and do not have sufficient income are covered;
- Article 53 only specifies that indigent elderly receive welfare and conveniences to preserve their dignity, and other public assistance as indicated. But this “other” assistance is vague and presents a legal vacuum.

#### 2. National Health Act of 2007

This is a very general legal provision without any concrete content about how to maintain and protect health, let alone health of the elderly. The authors feel that this law is unenforceable.

#### 3. Older Persons Act of 2003

This act does not define health of the elderly or long-term care.

### Policy and laws related to health and long-term care:

- There are laws defined by the constitution or certain Acts, but there are no secondary laws to enable effective application;
- The laws that do exist do not have a specific scope or definition of coverage, or are not in line with reality;
- The laws that are enforceable do not cover all groups of the elderly;
- There are no secondary laws that are applicable to the relevant support agencies for the elderly.

## Recommendations

1. The Thai Constitution should have a specific section on the elderly that is distinct from the section on children and the disabled;
2. There should be secondary laws as announcements or ministerial regulations which provide clear specifications on health of the elderly;
3. The 2007 National Health Act should have a separate section on the elderly;
4. There should be more legal specifications related to personnel or caregivers of the elderly, in terms of production of these personnel, qualifications, quality control, and oversight. This should be amended to the 2003 Older Persons Act;
5. The welfare subsidy for the elderly should be separate than that for the disabled, since many elderly are not disabled and can still work. The subsidy should be enough for subsistence living.

## 4.4

### Lessons learned from enterprises which hire the elderly

Kaewkwan Tangtipongkul and Supachai Srisuchart  
Faculty of Economics, Thammasat University.

---

This research was conducted in 2016, with funding from the TGRI

#### Objectives

To collect data from worksites which hire the elderly, and to extract lessons learned from the experience, problems, obstacles, need for support, and other factors related to the advocacy for replication of this policy and practice to other worksites.

#### Methodology

1. Review of literature on expanding opportunities for the elderly in Thailand and internationally, including factors affecting the hiring of the elderly;
2. Qualitative data collection through in-depth interviews with workers in four worksites which are model employers in hiring the elderly. The respondents are from two groups: those age under 55 years and those age 55 years or older.

## Results

Supporting and thwarting factors for hiring the elderly in each worksite differ for certain dimensions depending on the type of industry and tasks. There are also differences in knowledge management of the worksite, ability to replace workers who leave their jobs, financial capacity of the worksite, physical capacity and health of the workers, financial compensation, and attitudes of the family about the elderly in the workforce.

## Recommendations

The government should support hiring of fit elderly, initially on a voluntary basis. The government might consider providing some subsidies or tax benefit as an incentive for the worksite to hire elderly. Later, as the practice becomes more acceptable, the government could implement compulsory measures to achieve a certain quota of the work force that is elderly. There would have to be some sort of negotiation as to what the appropriate proportion should be in a given worksite. Overall, society needs to acquire the norm that it is acceptable to have elderly in the mainstream labor force as long as they are qualified to perform the job.

## 4.5

### Performance of health care for elderly and Impact on public health care financing during 2011-2021

Thaworn Sakulpanit

Health Services Research Institute

---

This study was conducted in 2011, with financial support from Elderly Quality of Life Development Program of the Thailand Health Promotion Foundation

#### Objectives

1. To review the literature on indicators of success of elderly healthcare services;
2. To estimate the impact on public health expenditures for the elderly.

#### Methodology

1. Review of related literature: This was done by searching on MEDLINE, EMBASE and Google, and a secondary search of referenced material. This was done during November 1 through December 31, 2010.
2. Criteria for selection include published research in English, topic directly relevant to the objective of this study, and not published before 1985.
3. For the projection of health expenditures, the author use an actuarial model. This model was used to assess the impact on healthcare expenditures in the coming ten years, with the base year being Fiscal Year 2009.

## Results

The on-line search yielded 9,839 articles in total. Those that met the criteria include 127 from MEDLINE, seven reference reports from EMBASE, and 62 articles from a Google search. In the end, the author used the information from 52 articles to identify indicators of success of elderly healthcare services. The findings are as follows:

1. Elderly are accessing health services and treatment more than before; but overall coverage is still not optimal;
2. Use of primary care by the elderly is increasing, along with rehabilitation and long-term care;
3. Expenditures for health care of the elderly through the NHSO system is increasing;
4. Actuarial models to project healthcare costs need to include deceased cases and the medical costs for them up to the point of death.

## Recommendations

1. There is a need to urgently increase priority of primary care and screen for risk factors and chronic disease. There need to be individual health plans which are monitoring regularly;
2. There is a need to expand the rehabilitation services starting right after treatment for acute conditions in clinical outlets at the in-patient ward. The post-discharge care should continue in the home community or home itself. This will decrease the duration of hospital stays and reduce costs across the board.
3. There need to be standard guidelines for long-term care of the elderly.

## 4.6

### Study of centenarians in Thailand

Pramote Prasartkul, Rossarin Gray, Patama Vapattanawong, Charamporn Holamyong, Sutthida Chuanwan, Kanchana Thianlai, Rittichai Sutiserm, and Sirinya Kaikaew

Institute for Population and Social Reserch, Mahidol University

---

This research was conducted in 2016, with financial support from the Thailand Research Fund.

#### Objectives

To study the trends in demographic change (size, age-sex structure) and health of the population age 80 years or older and centenarians.

#### Methodology

This research used both quantitative and qualitative data collection methods. Secondary data are from the national population census and life tables to estimate life expectancy of the older population. This study also looked at data on centenarians (i.e., those Thais age 100 years or older) from the civil registration system of the Ministry of Interior. The researchers phoned local officials in seven provinces to identify surviving centenarians for further study. The number still living were compared with the total in the civil registration to estimate the total number of centenarians in the country. Field data collection was conducted in four provinces to verify the civil registration data on centenarians.

## Results

Despite the increased longevity of the Thai population, many elderly in advanced years are not in good health or have disability. The research team found that about one-fourth of males of advanced age were healthy and the vast majority (91%) had no disability. By contrast, only one-fifth of females were in good health in advanced age, and 85% had no disability. This study estimates that, in 2015, there were slightly over 1,000 Thais age 100 years or older: 209 males and 817 females. Of the total, just under half were estimated to be in good health, though only one-third still had good memory and ability to communicate with others. In addition, only one-third were fully mobile. One-third of centenarians had good hearing. The majority (79%) could feed themselves.

## Recommendations

This study provides guidelines on improving the quality of data on centenarians in the civil registration system. The data also point out the gender differential of this group of the population, and the need to focus on reducing disability among the oldest members of the Thai population. There needs to be a more appropriate method of assessing the health status of the centenarians and others of advanced age.

## 4.7

# Research synthesis on the relation of psycho-social characteristics relevance to quality of life among elderly in Thailand

Narisara Peungposop and Thasuk Junprasert

Behavioral Science Research Institute, Srinakharinwirot University

---

This research was conducted in 2012, with financial support from the government budget.

### Objectives

1. To analyze research findings on psycho-social factors affecting quality of life of the elderly in Thailand;
2. To compile and summarize tools to measure quality of life of the elderly; and
3. To identify the key psycho-social factors affecting quality of life of the elderly in Thailand.

### Methodology

This study was a synthesis of qualitative and quantitative findings from published and unpublished research to identify factors affecting quality of life of the elderly. Studies completed during 2000-10 were included. A total of 72 studies were identified and downloaded.

## Results

Most of the studies applied the WHO principles of quality of life and defined quality of life in more than one dimension. Nearly all of the studies assessed quality of life at the individual level. About half of the studies focused on four dimensions of quality of life: physical health, social life, mental health, and economic status. Fully 43 of the studies applied the WHO 26-indicator tool to assess quality of life. This synthesis found that key factors affecting quality of life of the elderly include group counseling, belief in one's competency to achieve quality of life, family relationships, income, and ability to overcome problems and obstacles in life.

## Recommendations

### Academic

1. Studies of quality of life of the elderly should use applied methods;
2. There should be experimental studies with a control group;
3. Researchers should review the identification of factors affecting elderly quality of life from integration of theories with knowledge from psychology and social sciences;
4. There should be a definition of elderly quality of life that is tailored to the Thai social context;
5. There should be tools to more accurately measure quality of life, both directly and indirectly.

### Policy

1. Public and private agencies that work with the elderly should promote group counseling for the elderly and active participation of the elderly to improve quality of life;
2. The family, community and LAO should play a bigger role in building capacity of the elderly;
3. The family should encourage the elderly to be both a provider as well as a receiver of services and be socially involved with others;
4. Employers and agencies should consider extending the working age of the elderly;
5. Elderly need to prepare themselves, physically and mentally to meet life challenges.



## 4.8

### Social care system for the elderly

Wannalak Miankerd

Thammasat University

---

This study was conducted in 2016 with financial support from HSRI

#### Objectives

1. To review and synthesize the meaning, scope and models of social services and mechanisms of social assistance for the dependent elderly in other countries;
2. To offer recommendations for health and social care for dependent elderly in Thailand.

#### Methodology

This was a review of published studies, both domestic and international (UK, USA, Canada, Australia, and Japan).

## Results

1. Social services for the elderly can be classified as at the family, community and institutional levels. Elderly have a strong need for social services, but these services are still generalized and not specific to the older members of the population. Many governments require an assessment to determine eligibility for social services. The cost of social services can be considerable and usually does not meet the demand.
2. Other countries usually have laws or policies which provide a framework for social services, including a national plans and programs for the elderly. Countries are trying to fund these services through a combination of central and local government budgets and co-pays by the population.
3. Monitoring of integrated social and health care of the elderly is done at the policy level, at the management level (budget, personnel, services); and at the level of service model design.

## Recommendations

1. There needs to be equality in social and health care services for the elderly;
2. There needs to be a determination of the type and number of personnel to adequately care for the elderly in the future;
3. There needs to be a current database of the elderly at the community level;
4. There needs to be a national fund for social services for the elderly that is integrated with funds for health care of the elderly.

Working Committee  
of the Report on  
the Situation of  
the Thai Elderly 2016

---





## Working Committee of the Report on the Situation of the Thai Elderly 2016

Banloo Siriphanich, M.D.	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Ladda Damrikarnlerd, M.D.	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Professor Worawet Suwanrada, Ph.D	Faculty of Economics, Chulalongkorn University
Associate Professor Vipan Prachuabmoh, Ph.D.	College of Population Studies, Chulalongkorn University
Siriwan Aruntippaitune	Bureau of Empowerment for Older Persons
Chirawan Mathuam	Statistics Group, National Statistical Office
Kannikar Saena	Population Statistics Group, National Statistical Office
Professor Sasipat Yodpet	Executive Board of Foundation of Thai Gerontology Research and Development Institute (TGRI)
Ubol Limsakul	Honorary Member, Senior Citizen Council of Thailand
Thida Sripaipan	Honorary Member, Senior Citizen Council of Thailand
Professor Prasert Asantachai, M.D.	Thai Society of Gerontology and Geriatric Medicine
Professor Wichai Aekplakorn, M.D.	Faculty of Medicine, Ramathibodi Hospital, Mahidol University
Professor Paibun Suriyawongpaisan, M.D.	Faculty of Medicine, Ramatibodi Hospital, Mahidol University
Thaworn Sakunphanit, M.D.	Health Insurance System Research Office (HISRO)
Sukanya Paisanthum	Macro Labor Economic Group, Ministry of Labour
Director Bureau of Elderly Health	Department of Health, Ministry of Public Health
Director Bureau of Mental Health Promotion and Development	Bureau of Mental Health Promotion and Development, Ministry of Public Health
Director Department of Local Administration	Department of Local Administration, Ministry of Interior
Director Department of Cultural Promotion	Department of Cultural Promotion, Ministry of Culture
Director Department of Public Works and Town & Country Planning	Director Department of Public Works and Town & Country Planning

Director Bureau of Policy and Strategy	Bureau of Policy and Strategy, Ministry of Public Health
Director Social Development Strategy and Planning Office	Social Development Strategy and Planning Office, Office of the National Economic and Social Development Board
Director Strategy and Evaluation Department	Strategy and Evaluation Department, Bangkok Metropolitan Administration
Director Institute of Geriatric Medicine	Institute of Geriatric Medicine, Ministry of Public Health
Director Department of Empowerment of Persons with Disabilities	Department of Empowerment of Persons with Disabilities, Ministry of Social Development and Human Security
Director Department of Land Transport	Department of Land Transport, Ministry of Transport
CEO of ThaiHealth	Thai Health Promotion Foundation
Executive Director, Health Systems Research Institute	Health Systems Research Institute
Bongkoch Chudatemiya	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Tipsukon Nuathong	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Passorn Prakchaorn	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Sirirung Srisittpisarnpop	Foundation of Thai Gerontology Research and Development Institute (TGRI)
Emeritus Professor Pramote Prasartkul, Ph.D.	Institute for Population and Social Research, Mahidol University
Professor Patama Vapattanawong, Ph.D.	Institute for Population and Social Research, Mahidol University
Assistant Professor Jongjit Rittirong, Ph.D.	Institute for Population and Social Research, Mahidol University
Assistant Professor Manasigan Kanchanachitra, Ph.D.	Institute for Population and Social Research, Mahidol University
Assistant Professor Sutthida Chuanwan, Ph.D.	Institute for Population and Social Research, Mahidol University
Suporn Jaratsit	Institute for Population and Social Research, Mahidol University
Kanchana Thianlai	Institute for Population and Social Research, Mahidol University



## SITUATION OF THE THAI ELDERLY 2016

ISBN	978-616-443-083-9
Advisors	Banloo Siriphanich, M.D. Ladda Damrikarnlerd, M.D., Somkid Somsri
Chief Editor	Emeritus Professor Pramote Prasartkul, Ph.D.
Editors	Professor Patama Vapattanawong, Ph.D. Assistant Professor Manasigan Kanchanachitra, Ph.D. Assistant Professor Sutthida Chuanwan, Ph.D. Assistant Professor Jongjit Rittirong, Ph.D. Suporn Jaratsit Kanchana Thianlai Chirawan Mathuam Siriwan Aruntippaitune Kannikar Saena
First printing	December, 2017
Sponsored by	Foundation of Thai Gerontology Research and Development Institute
Coordinated by	Foundation of Thai Gerontology Research and Development Institute Institute for Population and Social Research, Mahidol University
Published by	Foundation of Thai Gerontology Research and Development Institute 1168 Soi Paholyothin 22, Paholyothin Road, Lad Yao, Jatujak, Bangkok 10900 Telephone: 02-511-5855 Fax: 02-939-2122 Website: <a href="http://www.thaitgri.org">www.thaitgri.org</a>
Cover/format	Porta Boonyatearana
Printing Co.	Printery CO., LTD. 999 Puttamonthon 4 Road, Salaya, Puttamonthon, Nakorn Pathom 73170 Telephone: 02-441-0445 Fax: 02-441-0446

**Foundation of Thai Gerontology Research and Development Institute**  
1168 Soi Paholyothin 22, Paholyothin Road, Lad Yao, Jatujak, Bangkok 10900  
Telephone: 02-511-5855 Fax: 02-939-2122 Website: [www.thaitgri.org](http://www.thaitgri.org)

**Institute for Population and Social Research, Mahidol University**  
999 Puttamonthon 4 Road, Salaya, Puttamonthon, Nakorn Pathom 73170  
Telephone: 02-441-0201-4 Fax: 02-441-9333 Website: [www.ipsr.mahidol.ac.th](http://www.ipsr.mahidol.ac.th)