Ageing and Health in the Philippines: Wave 2

Edited by

Grace T. Cruz
Christian Joy P. Cruz
Yasuhiko Saito

ERIA
Economic Research Institute for ASEAN and East Asia

DRDF Incorporated 1983

AHWIN

Ageing and Health in the Philippines: Wave 2

Edited by

Grace T. Cruz
Christian Joy P. Cruz
Yasuhiko Saito

ERIA
Economic Research Institute for ASEAN and East Asia

DRDF Incorporated 1983

AHWIN

Published by
Economic Research Institute for ASEAN and East Asia (ERIA)
Sentral Senayan II 6th Floor
Jalan Asia Afrika No. 8,
Central Jakarta 10270
Indonesia

and

Demographic Research and Development Foundation, Inc.
PH1200, 2/F Palma Hall, University of the Philippines, Roxas Ave., Diliman, Quezon City 1101 Philippines

Layout by ERIA team
Cover design by ERIA team
Photo Credit by Eman Lacuesta (from Dumaguete City, Philippines)

Full series ISBN no.978-602-5460-59-3
Wave 2 ISBN no. 978-602-5460-61-6

Suggested citation:
Cruz, G.T., Cruz, C.J.P., and Saito, Y. (eds.) (2025), *Ageing and Health in the Philippines: Wave 2*. Jakarta: ERIA (Economic Research Institute for ASEAN and East Asia).

ERIA Foreword

As global populations continue to age, understanding the unique challenges and opportunities of ageing in various sociocultural contexts has never been more crucial. By 2030, the Philippines will become an ageing society, with individuals aged 60 and over accounting for more than 10% of the population. This research, the Wave 2 survey of the Longitudinal Study of Ageing and Health in the Philippines (LSAHP), aims to identify older Filipinos' health, economic status, gender differences, the effect of household environment, and major challenges in the post-COVID-19 situation. This longitudinal study is particularly meaningful for comparing and analysing changes in older Filipinos' health and social conditions before and after the pandemic through the Wave 1 and Wave 2 surveys.

The Wave 2 survey was conducted by ERIA and the Demographic Research and Development Foundation (DRDF) from January to April 2023. Building upon the findings of Wave 1 from December 2018 to March 2019, this second survey comprehensively explores the ageing phenomenon within the Philippines and sheds light on the changing demographic landscape contributing to the Philippines' transition to an ageing society.

We hope this research can provide an invaluable scientific data resource for policymakers, healthcare professionals, social workers, and academics committed to enhancing the quality of life for older individuals. It fosters a deeper understanding and appreciation of the ageing process, advocating for a more inclusive and supportive society for individuals of all ages. I am confident that readers will find the research on LSAHP to be an enlightening and impactful contribution to gerontology and public health.

Lastly, I want to express my deepest gratitude to the LSAHP project team. Despite significant challenges during data collection, including respondent relocation, health conditions, and the postponement of the survey due to the pandemic, the teams successfully accomplished the research. The data and insights obtained from this research will provide support to policymakers with an informed decision on how to promote a healthy and active ageing experience for Filipinos in the future.

Yours sincerely,

Tetsuya Watanabe

Tetsuya Watanabe
President of ERIA (Economic Research Institute for ASEAN and East Asia)

Republic of the Philippines
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

Message

The National Economic and Development Authority (NEDA) commends the collaborative efforts of the Demographic Research and Development Foundation Inc. (DRDF) and the Economic Research Institute for the ASEAN and East Asia (ERIA) in completing the 2nd Wave Report on Ageing and Health in the Philippines. This study, a continuation of the Longitudinal Survey on Health and Ageing in the Philippines (LSHAP) first published in 2019, is a significant step towards advancing the goals of active and healthy aging in the country—an indispensable aspect of development to ensure that no Filipino is left behind.

By 2028, as outlined in the Philippine Development Plan 2023-2028, we envision Filipinos enjoying long and healthy lives in livable communities with strengthened health systems and an environment that enables healthy choices and behavior. This report is invaluable as we work toward this goal, as it provides a comprehensive examination and analysis of the health, socioeconomic status, living conditions, and other pertinent data regarding our elderly population.

These insights will empower us to implement evidence-based policies and programs that can significantly improve human and social development. This, in turn, increases the likelihood that our citizens, particularly our senior citizens, will live longer, healthier, and more active lives. By focusing on programs that better serve and assist our older and vulnerable population, we can ensure that they stay out of poverty, a crucial responsibility we all share.

NEDA is confident that this research, along with its predecessors, will guide policymakers about the necessary interventions to improve the lives of our senior citizens.

May the findings of this study contribute greatly towards our much-desired long-term and collective goal: the *AmBisyon Natin* 2040 of a *matatag, maginhawa, at panatag na buhay para sa bawat Pilipino.*

Arsenio M. Balisacan, PhD
Secretary, National Economic and Development Authority
Republic of the Philippines

Republic of the Philippines
DEPARTMENT OF HEALTH

BAGONG PILIPINAS

Message

The Department of Health (DOH) is pleased to offer our support for the Demographic Research and Development Foundation, Inc. (DRDF) and the Economic Research Institute for ASEAN and East Asia (ERIA)'s Longitudinal Study of Ageing and Health in the Philippines (LSAHP). This study represents a significant step forward in understanding the health and well-being of older Filipinos and informing policies and programs aimed at promoting active and healthy ageing.

As the LSAHP is a comprehensive, data-rich initiative that sheds light on a wide range of physical, functional, mental, and dental health indicators among the senior population in the Philippines, this holistic approach is precisely what the Department of Health needs to effectively address the evolving healthcare needs of an the study's findings will illuminate crucial gaps in aging Filipino populace. Notably, healthcare access and insurance coverage among the elderly, underscoring the importance of strengthening the country's long-term care infrastructure.

In our pursuit of Universal Health Care, the LSAHP will undoubtedly inform evidence-based policymaking and programmatic interventions to ensure that all Filipinos can enjoy a healthy and active retirement.

We commend DRDF and ERIA for their visionary leadership in spearheading this study and for their unwavering commitment to promoting the well-being of older Filipinos. We are confident that the LSAHP will continue to yield important insights and serve as a critical resource for advancing active and healthy ageing in the Philippines.

Teodoro J. Herbosa, MD
Secretary of Health
Republic of the Philippines

Republic of the Philippines
DEPARTMENT OF SOCIAL WELFARE AND DEVELOPMENT

Message

I would like to extend my warmest congratulations to the Demographic Research and Development Foundation, Inc. (DRDF) and the Economic Research Institute for ASEAN and East Asia (ERIA) on the publication of the report, "Ageing and Health in the Philippines: Wave 2".

This second report on the Longitudinal Study of Ageing and Health the Philippines (LSAHP) represents significant milestone project in our nation's ongoing efforts to understand and address the needs of our older population.

Conducted in 2023, LSAHP Wave 2 serves as a follow-up to the initial survey of 5,985 respondents carried out in 2018. This new wave of research enhances our understanding of ageing by building upon the foundational data collected previously, allowing us to observe health transitions over time. The findings of this study offer comprehensive scientific basis for developing robust health and health-related policies and programs tailored to the unique needs of older Filipinos.

As the first nationally representative panel study focused on older individuals in the country, LSAHP provides invaluable insights into the health status and well-being of our senior citizens, as well as the myriad factors that influence these outcomes.

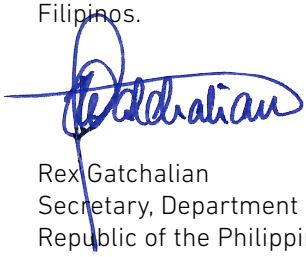
The insights gained from LSAHP Wave 2 are crucial for shaping our policy and programmatic responses to the challenges and opportunities associated with an ageing population.

As the lead agency in social protection, we, at the DSWD believe that this study will enable us, other stakeholders, practitioners, and policy-makers to craft evidence-based interventions that promote the well-being and dignity of older individuals across the Philippines.

The DSWD stands ready to use the findings of this report to enhance our services and programs, ensuring that every Filipino can age with dignity and grace.

I commend the collaborative efforts of DRDF and ERIA in conducting this essential research. Their dedication to advancing our knowledge of ageing and health is a testament to their commitment to the betterment of our society. It is through such rigorous research and partnership that we can ensure our older citizens receive the care and support they deserve.

Through this publication, may we all reaffirm our commitment to the health and well-being of older Filipinos.



Rex Gatchalian
Secretary, Department of Social Welfare and Development
Republic of the Philippines

Republic of the Philippines
NATIONAL COMMISSION OF SENIOR CITIZENS

BAGONG PILIPINAS

Message

The National Commission of Senior Citizens expresses its sincerest congratulations to the Longitudinal Study of Ageing and Health in the Philippines (LSAHP) headed by Grace T. Cruz, Ph.D., which is the product of the collaborative work of the Demographic Research and Development Foundation, Inc. (DRDF), Economic Research Institute for ASEAN and East Asia (ERIA).

Shortly after the release of the first report in 2018, the Republic Act 11350, otherwise known as the National Senior Citizens Act of 2019 was born and I believe that the insights and information resources from the LSAHP report contributed, in one way or another, to the rationalization of the said Law.

On the release of the LSAHP second report entitled "Ageing and Health in the Philippines: Wave 2", we, in the NCSC are grateful for the privilege and benefits that this report will bring us. As the national agency mandated to promote, uphold, and protect the rights and well-being of senior citizens and maximize their contributions to nation-building, this report will be an important reference for data-driven decision-making.

Certainly, the information from the report will represent a pivotal contribution to developing one of the NCSC's core programs, the Wellness, Health, and Emergency Response and Benefits and Development (WHERBD) Program. The academic and actual examination of demographic trends, health status, access to healthcare, economic security, and social support systems provides invaluable insights that are crucial not just for the NCSC but also for policymakers, healthcare providers, and researchers. This report highlights the challenges of older Filipinos and opens pathways for targeted interventions and informed policymaking.

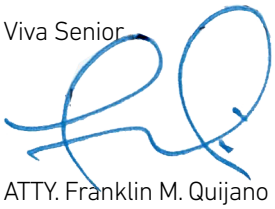
This significant accomplishment represents updated information to understand the complex dynamics affecting the aging population in the Philippines. As we navigate the complexities of an aging population, the report will undoubtedly serve as a foundational resource, guiding efforts to enhance the health and well-being of older adults in the Philippines.

It is worth noting that the present social milieu of senior citizens compared to other aging countries is somehow more conducive to implementing family-based support mechanisms. Perhaps, it is owed to the "cultural defiance" of Filipinos when the government was imposing population control through family control programs in the 20th century. The "defiance" made age gaps closer to the respective age brackets. Moreover, our society has maintained a high labor force population, crucial for sustaining our national economy and international competitiveness.

We always admire and appreciate the passion and responsibility of the rigorous data collection and analysis that underpins findings, ensuring that the information is credible, doable, replicable and actionable. The attention to detail and the holistic approach taken in the report reflect the dedication and expertise of the LSAHP team.

Once again, congratulations on this remarkable achievement. We look forward, with great interest, to collaborating on possible opportunities that would bring impact and positive changes to the lives of Filipino Senior Citizens and the country.

Viva Senior



ATTY. Franklin M. Quijano
Chairperson and Chief Executive Officer
Republic of the Philippines

Acknowledgements

The Ageing and Health in the Philippines: Wave 2 report offers an updated profile of older Filipinos, drawing on data from the follow-up survey of the original respondents of the Longitudinal Study of Ageing and Health in the Philippines (LSAHP) project. Building on the baseline data from the initial report, this new edition presents a comprehensive picture of the health, socioeconomic status, and overall well-being of older individuals approximately 4 years after the initial interview at baseline survey.

In addition to the topics covered in the first report, this second wave introduces new areas of exploration, including mortality, the experiences of older persons during the COVID-19 pandemic, and geospatial covariates that provide a deeper understanding of the situation of older Filipinos. The LSAHP is the only nationally representative panel data set on older people aged 60 years and over in the Philippines, making it a vital resource for understanding and addressing the needs of the ageing population.

The preparation of this report is the result of a collaborative effort amongst many institutions and individuals. The LSAHP is being implemented by the Demographic Research and Development Foundation, Inc. (DRDF), with funding support from the Economic Research Institute for ASEAN and East Asia (ERIA). We appreciate the technical support of Erniel Barrios, who has been serving as our statistical consultant for this project since 2018, and Maria Midea M. Kabamalan, who served as subject matter specialist. We are grateful for the administrative support of Takuma Kato, Asuka Nagatani, and Antonio Villanueva of ERIA. We also express our appreciation to the ERIA editorial board for the thorough review of this report.

The LSAHP project was guided by an advisory committee whose guidance ensures the study's relevance and responsiveness to the needs of older Filipinos. We acknowledge the contributions of the following organizations: Department of Health (DOH), Commission on Population and Development (CPD), National Economic and Development Authority, the Institute on Aging of the National Institutes of Health - University of the Philippines Manila, Philippine Statistics Authority, National Commission for Senior Citizens, Department of Social Welfare and Development, Commission on Human Rights, Philippine Health Insurance Corporation, Government Service Insurance System, Social Security System, United Nations Population Fund Philippines, Coalition of Services of the Elderly, Inc., Department of Psychology – UP Diliman, and UP Population Institute.

We are particularly grateful to DOH and the CPD for providing endorsement letters for our fieldwork. These endorsements were crucial in facilitating the entry of our fieldworkers into sampled localities, particularly in the post-COVID-19 pandemic context where concerns about infection risks persisted during personal interviews, especially amongst vulnerable populations such as older persons. We are also grateful to all the local government units of the sampled cities, municipalities, and barangays for allowing our interviewers to collect data within their jurisdictions.

Our immense gratitude goes to our field supervisors and interviewers who faced various natural and human-made challenges, including red-tagging, and worked tirelessly to ensure the collection of high-quality information. We also acknowledge with deep sorrow the loss of two of our field personnel, Andrea Baoalan and Jicky Cabus, whose contributions will be greatly missed in future LSAHP data-gathering efforts. We extend our thanks to the other members of the LSAHP data management team, particularly our data processing consultant, Maria Paz Marquez; programmer, Leo Angelo Ocampo; data processing staff, Klarriness Tanalgo, Jeconiah Boongaling, Jane Siwa; and our researchers, Ryan Paguirigan, Karlene Cabaraban, Angelo Rafael Nacionales, and John Lemuel Magnaye. We are equally grateful to the DRDF administrative team for their unwavering support.

We dedicate this report to all older Filipinos, especially our surviving study participants and those who have passed away. Their lived experiences, shared by themselves or their informants, are the foundation of this research. We hope that their continued trust in our work will lead to valuable scholarly contributions and improvements in formulating policies and programmes to ensure the health and well-being of our older Filipinos.

Grace T. Cruz
Christian Joy P. Cruz
Yasuhiko Saito

List of Authors

Grace T. Cruz
University of the Philippines Population Institute
Demographic Research and Development Foundation, Inc.

Christian Joy P. Cruz
University of the Philippines Population Institute
Demographic Research and Development Foundation, Inc.

Yasuhiko Saito
Nihon University, Japan

Mark Ryan B. Paguirigan
University of the Philippines Population Institute

Jose Andres F. Ignacio
University of the Philippines Population Institute

Jeconiah K. Boongaling
University of the Philippines Population Institute

Leo Angelo L. Ocampo
Demographic Research and Development Foundation, Inc.

Maria Karlene Shawn I. Cabaraban
University of Vienna, Austria

Klarriness P. Tanalgo
University of the Philippines Population Institute

Erniel B. Barrios
Monash University Malaysia

Maria Paz N. Marquez
University of the Philippines Population Institute

Table of Contents

List of Tables

List of Figures

List of Acronyms

4Ps	Pantawid Pamilyang Pilipino Program
ADL	Activities of Daily Living
ASEAN	Association of Southeast Asian Nations
COVID-19	Coronavirus Disease 2019
CRVS	Civil Registration and Vital Statistics
DOH	Department of Health
DRDF	Demographic Research and Development Foundation, Inc.
GALI	Global Activity Limitation Indicator
GIS	Geographic Information System
GPS	Global Positioning System
GSIS	Government Service Insurance System
IADL	Instrumental Activities of Daily Living
IATF	Interagency Task Force on Emerging Infectious Diseases
LSAHP	Longitudinal Study of Ageing and Health in the Philippines
LSAHP W1	LSAHP Wave 1
LSAHP W2	LSAHP Wave 2
MNA	Mini Nutritional Assessment
NCR	National Capital Region
OCHA	Office for the Coordination of Humanitarian Affairs
OSM	Open Street Map
PES	Philippine Elderly Study
PhilHealth	Philippine Health Insurance Corporation
PSA	Philippine Statistics Authority
PSGC	Philippine Standard Geographic Codes
RA	Republic Act
SSS	Social Security System
UPPI	University of the Philippines Population Institute
VA	Verbal Autopsy

WG-SS	Washington Group Short Set on Functioning
WHO	World Health Organization
WHO-5	World Health Organization-Five Well-Being Index

Executive Summary

The Longitudinal Study of Ageing and Health in the Philippines (LSAHP) is the first nationally representative panel study focusing on older individuals in the country. It is designed to (i) examine the health status and well-being of older Filipinos aged 60 years and over and the factors influencing these outcomes, and (ii) analyse the factors associated with health transitions. The LSAHP is part of a comparative study of the Philippines and Viet Nam. It is funded by the Economic Research Institute for ASEAN and East Asia and implemented by the Demographic Research and Development Foundation, Inc.

The LSAHP now has two waves of data collection. The baseline or Wave 1 (W1) was collected from December 2018 to March 2019 with a sample of 5,985 respondents and a 94% response rate. The follow-up survey or Wave 2 (W2) was collected 4 years after, from January to April 2023, with a response rate of 93%. The initial plan was to conduct the follow-up study 2 years after the baseline, but the fieldwork was disrupted by the COVID-19 pandemic. The W2 survey included 4,397 still alive; 1,579 deceased; and 9 lost to follow-up. A total of 4,011 surviving respondents and 1,514 informants of deceased respondents were interviewed in the W2 survey.

This report focuses solely on the W2 dataset. It presents the profile of surviving older Filipinos aged 64 years and older. Discussions cover the health and well-being of older Filipinos, similar to what was provided in the W1 report, with additional W2 topics such as nutrition, new measures of well-being, and experiences related to the COVID-19 pandemic. In addition, this report provides insights into the context of older adult mortality in the country.

The Philippine population is ageing. The country is projected to transition to an ageing society by 2030. This shift is facilitated by significant demographic changes marked by a recent sharp decline in fertility rates and an increase in life expectancy. The older population growth rate is increasing and will maintain its momentum even as other age groups are expected to experience a declining relative share in the future.

The increasing number of older people will be marked by an increasing numeric dominance of women, suggesting feminisation amongst survivors. Most surviving older women are widowed, in contrast to surviving older men, who are mostly married. The education profile of older Filipinos remains low, with no significant difference between males and females. However, there is a visible improvement in the education profile of younger cohorts relative to older cohorts. The anticipated improvements in the education profile of future generations of older Filipinos are expected to have a profound positive impact on their health and well-being.

DEMOGRAPHIC AND SOCIOECONOMIC CONTEXT

Older Filipinos maintain extensive intergenerational family networks. Coming from a generation with high fertility, older Filipinos have an average of about 5.5 children, 4.7 of whom are still alive. The majority (59%) live with at least one child, whilst 12% live alone. Most of those who live alone have children living within the same barangay. Nine in ten (91%) have at least one grandchild, most of whom co-reside with them; a fourth of these older Filipinos take care of their grandchildren either fully or partially. Besides their immediate family, older people have about seven siblings, three of whom are still living. On average, older Filipinos live in households with an average of four members.

Older Filipinos are economically disadvantaged, relying on unstable sources of income. Older Filipinos are heavily reliant on remittances from children living in the country (58%) and abroad (18%), pensions (54%), and income from work (26%) for their support. Monetary support from relatives outside the household (19%), income from farming (17%), and family businesses (12%) serve as additional financial sources. Amongst these sources, income from work and pensions are considered the most important for males, whilst pensions and remittances from children within the country are the primary sources of support for females.

Most older Filipinos possess at least one asset, most commonly the house where they currently reside (77%), followed by appliances (40%) and other real estate properties (13%). Only a few reported having financial assets, with 7% having cash and less than 5% having savings in the bank. About one in five older persons (18%) have liabilities, most commonly loans from moneylenders (e.g. loan sharks, pawnshops, credit unions, and cooperatives; 44%) and personal loans (30%), with no significant differences between sexes and age groups.

Older Filipinos experience significant unmet economic needs. When asked to assess the adequacy of their household income, the majority of older Filipinos reported experiencing some difficulty (34%) and considerable difficulty (25%) in meeting household expenses. A third (33%) think that their combined household income is just enough to cover their needs without difficulty, whilst only about a tenth (9%) reported having leftover money. Household indicators also suggest a high level of economic difficulty, with about 12% belonging to households that are recipients of the government poverty alleviation programme through the conditional cash transfer programme or the *Pantawid Pamilyang Pilipino Program*. About 7% reported that their households experienced hunger in the 3 months before the survey, of which a quarter (25%) experienced severe hunger.

HEALTH STATUS, HEALTHCARE, AND HEALTHCARE UTILISATION

Older Filipinos encounter various health challenges. Older Filipinos experience a high prevalence of physician-diagnosed illnesses, primarily noncommunicable diseases, poor oral health, pain, and falls. Hypertension is the most commonly diagnosed illness (48%), followed by cataracts (19%) and arthritis, neuralgia, or rheumatism (18%). Nearly 5% have had a heart attack, with the first attack occurring at an average age of 58 years. Amongst those who experienced heart attacks, only two in five (42%) are presently taking medication for their heart condition, with the highest proportion (61%) being in the youngest age group (<70). One in three older individuals (33%) often experience pain, with 58% describing it as moderate and 9% reporting severe pain. Nearly a quarter of older individuals experienced a fall in the past 12 months. Those who experienced a fall in the past year reported an average of two falls, with 15% requiring medical treatment.

Functional difficulties are prevalent. One in five older persons (20%) reported experiencing difficulties performing at least one of the seven activities of daily living (ADL). The most prevalent ADL difficulties for older people are going outside or leaving the house (15%) and standing up from a bed or sitting down in a chair (11%). Physical functioning deteriorates with advancing age, with 44% of the oldest age cohort encountering at least one ADL difficulty. A higher proportion of older individuals (32%) are experiencing at least one difficulty in the seven instrumental activities of daily living (IADL). The Washington Group Short Set of Questions on Disability, another measure of functioning, shows that climbing steps is the most commonly reported difficulty, affecting 45% of older persons. The Global Activity Limitation Indicator, which assesses persistent limitations in various activities within the 6 months preceding the survey, indicates that 15% of older persons are severely limited because of health problems. The experience of being bedridden is a measure of extreme disability. Four percent of older respondents were bedridden within 2 weeks before the survey. The Nagi measures of physical functioning, another measure of functional limitations, reveal that 65% of older persons have encountered difficulties doing at least 1 of the 10 identified activities. Older persons find lifting an object weighing approximately 10 kg (44%) and standing or going without sitting for 2 hours (42%) the most difficult activities to perform. Generally, there is no gender difference in functional difficulties except for specific IADL items (e.g. taking care of financial matters and using transportation) and Nagi functioning, which show greater difficulty amongst females than males. However, more males (7%) than females (2%) experienced being bedridden.

Females have poorer oral health than males. Older people have an average of eight remaining teeth, with about a third (32%) experiencing edentulism. Females have poorer oral health than males, with the latter having significantly more teeth than the former (11 vs 7). As expected, the number significantly declines with advancing age, from an average of 10 remaining original teeth amongst those aged 70 and below to about 5 amongst those aged 80 and over.

Health risk behaviors persist in older ages. Fifteen percent of older Filipinos are current smokers, consuming seven cigarettes per day on average. More males than females currently smoke (29% vs 8%). Twenty-two percent of older Filipinos are current drinkers. Like smoking, a higher proportion of males than females are currently alcohol drinkers (44% vs 9%). The prevalence of smoking and drinking decreases with advancing age.

There are gaps in diet, nutrition, and weight loss. Data from the Rapid Diet Screener indicate that older Filipinos generally consume protein sources relatively frequently, with about 42% eating chicken, fish, or beans three or more times per week, with no significant differences by age or sex. Their intake of less nutritious foods, such as soft drinks, fried food, instant noodles, fast food, and sweets, appears to be relatively controlled. However, their consumption of fruits and vegetables is notably lower. The Mini Nutritional Assessment data reveal that whilst the majority (73%) reported no decrease in food intake in the 3 months preceding the interview, approximately a quarter experienced moderate (25%) to severe (2%) declines in food intake. Additionally, about 19% reported weight loss of 1–3 kg, and 5% lost more than 3 kg within the 3 months preceding the survey.

The utilisation of formal healthcare is limited. About 8% and 36% of older people availed of inpatient and outpatient care, respectively, in the past 12 months due to illnesses or accidents. Most of them sought care at private health facilities, with 50% using private facilities for inpatient care and 65% using such facilities for outpatient care. Amongst those who stayed overnight in public health facilities, provincial or city hospitals (23%), and district hospitals (13%) were preferred. Those who availed themselves of outpatient services in public facilities mostly visited barangay health stations. Most of the hospitalisation costs (61%) were covered by the older person's children. Older people and their spouses spent much less, covering 15% and 7%, respectively, of the hospitalisation costs. During their confinement, about 82% availed of Philippine Health Insurance Corporation (PhilHealth) benefits as a member, and 8% availed of such benefits as a dependent of a PhilHealth member in their family.

Informal care and long-term care are gendered. Women are more likely to provide informal care and long-term care for both male and female older persons. The daughter and spouse are commonly cited as the people who take care of the older persons, whether they are momentarily sick or have a continuing ill-health condition or disability. Males are more likely to be cared for by their spouses, whereas females are more likely to be cared for by their daughters. Twelve percent of surviving older persons are receiving long-term care. Most of these individuals (93%) receive care daily, with food preparation being the most common form of care provided (97%).

Notably, the proportion of older persons receiving long-term care from the oldest age cohort is five times that of those from the youngest cohort (30% vs 6%).

Older Filipinos have an unmet need for health services. About a fifth of older people face difficulties accessing healthcare services when needed, mostly due to financial reasons. Significant proportions are not aware of government programmes aimed at promoting the health of older people, such as the free vaccination programme for pneumococcal disease and influenza, as well as free medicines for hypertension and diabetes. Only 84% of those diagnosed with hypertension and 76% of those with diabetes are on maintenance medicines. Those with high blood pressure reported limited access to the government's free medicine for hypertension. Nineteen percent of those with high blood pressure and 11% of older persons with diabetes obtain their medicine from health centres all the time. More than half of older people are aware of the pneumococcal vaccine (52%) and influenza vaccine (53%). Amongst those who are aware, a little more than half (55%) have received the pneumococcal vaccine, whilst 57% have received the flu vaccine since turning 60. Most older persons (82%) received their vaccinations at barangay health stations. However, only 63% have health insurance, mostly PhilHealth, indicating a significant gap in coverage despite the universal healthcare law.

The typical older Filipino has a moderate self-assessed health status but a positive sense of well-being. Whilst faced with gaps in health and health utilisation, older people generally have a favourable self-assessment of their health. About half (46%) rate their health as average, although a greater proportion reported being in below-average health than being very healthy or healthier than average. Older Filipinos also have a highly positive subjective assessment of their well-being based on the World Health Organization Well-Being Index. Over 70% of respondents agreed that they experienced various positive feelings more than half of the time in the 2 weeks before the survey. These feelings include cheerfulness, calmness, activeness, waking up refreshed, and finding daily life interesting. A very small percentage (<2%) reported not experiencing these feelings at all. Their mental well-being score, using the 11-item Center for Epidemiologic Studies Depression Scale, which has three response categories (rarely/not at all, sometimes, often), shows that older Filipinos have an average score of 5 out of a possible 22.

GEOGRAPHIC CONTEXT

A significant disparity exists in access to essential social infrastructures. Geospatial data show that 11% of older people live at least 10 kilometre (km) from the nearest main road, 21% live at least 10 km from their city or municipal centre, 16% live at least 10 km from the nearest health facility, 29% live at least 10 km from the closest pharmacy, and 24% live at least 10 km from the nearest financial institution. There is a significant disparity in older people's access to services between urban and rural areas and across major area groups. Those living in remote rural settings face greater challenges than those in urban areas. A consistently higher proportion of rural residents reside at least 10 km from any identified social structure. Those residing in the Visayas region and Mindanao also display poorer access to social infrastructures such as main roads, municipal or city centres, health facilities, pharmacies, and financial facilities. This sharply contrasts with the situation of those from the National Capital Region, which displays better accessibility indicators. These findings of a significant geographic disparity in the distribution of health facilities within the country are confirmed by data showing that certain regions, such as Eastern Visayas, are underserved.

MORTALITY

There are high mortality rates with notable disparities. About one in five respondents from W1 (1,579 individuals) had died by the follow-up survey, with higher mortality amongst females than males (52% vs 48%) and amongst the widowed (54%) compared to those with a spouse or partner (35%). The majority of deceased older persons (60%) lived in rural areas. The mean age of those who died was 77 years.

Older Filipinos die in the company of their family members. Older people do not die in isolation. Those who died were typically living with at least four people, mostly family members, with only about 6% dying in the company of non-family members. Females generally lived with more people than males at the time of their deaths. Whilst most males (57%) resided with their spouses at the time of death, a significant proportion of females cohabited with extended family, particularly granddaughters (39%) and grandsons (35%). Additionally, older individuals exhibited a strong preference for residential stability, with almost all respondents who died (94%) having lived at the same address for the 4 years preceding their death or since the W1 data collection.

The majority of those who died were cared for by a family caregiver before their death. About two-thirds of older persons (68%) had a caregiver prior to their death. This is significantly more common amongst females (74%) than males (62%). Daughters (39%) and spouses (26%) were the most common caregivers. Males were predominantly cared for by their spouses (53%), whereas females typically had their daughters (52%) as their primary caregivers. Only about 12% had a non-family caregiver prior to death; this figure was significantly higher amongst females than males.

There is limited access to healthcare prior to death. Less than half of the older persons who died (43%) consulted a health professional in the week before death. In the 12 months before the time of death, nearly two in five (39%) of those who died availed of inpatient care, with a higher proportion of males hospitalised than females (49% vs 30%). On average, those who died were hospitalised twice in the past year, with the majority (59%) receiving care at public health facilities. Most of the hospitalisation costs were covered by their children (67%). A significant portion of these individuals utilised PhilHealth benefits (89%) and senior citizen discounts for medical expenses (90%) during their hospitalisation. Outpatient care utilisation for the same period preceding the older person's death was about 42%, with no significant age or gender disparity. In contrast to inpatient care, which was predominantly provided by public health facilities, outpatient care was mostly availed of in private health facilities, namely, hospitals (33%) and clinics (22%).

Nearly all deaths have been registered. The results indicate a 94% level of death registration, although only around half of those registered (56%) had a copy of the death certificate. Amongst the registered deaths, the home is more commonly reported than a health facility as the place of death (73% vs 26%).

COVID-19 PANDEMIC EXPERIENCES

Very few older persons have ever tested positive for COVID-19. Only 3% of surviving older persons have tested positive for COVID-19. Amongst those who tested positive for the disease, one in five has been hospitalised (20%), with increasing levels of hospitalisation with advancing age.

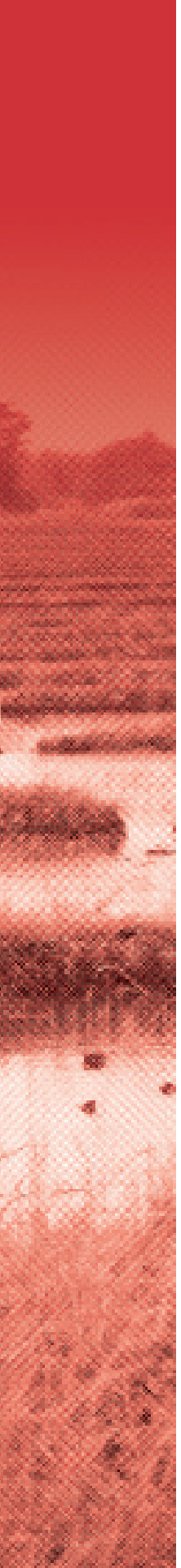
A substantial proportion of older people manifested vaccine hesitancy. Approximately one-third of older persons have not been inoculated with any of the COVID-19 vaccines since the start of the vaccination campaign in March 2021. A great majority of them (82%) reported that they do not want to be vaccinated. Nearly a third did not agree with the government's decision to ask all senior citizens aged 60 years and older to self-isolate in their homes, commonly referred to as quarantine.

Older persons' access to medical services was unhampered by the COVID-19 pandemic. During the lockdowns that restricted mobility, a small proportion delayed or cancelled essential medical treatment (5%), non-essential medical treatment (5%), and preventative or primary medical treatment (2%). Very few (8%) had any problems accessing medication for their health conditions during the pandemic. Only 4% had a medical condition that worsened due to the inability to see a healthcare professional because of the COVID-19 outbreak.

There is a gendered dimension to the activities undertaken by older people whilst in isolation during the COVID-19 pandemic. More women than men spent more time on hobbies and activities (61% vs 52%), watched more television (50% vs 48%), talked more with close friends and family via phone or video calls (14% vs 7%), exchanged more text messages with close friends and family (6% vs 4%), and used social media and other forms of online entertainment (7% vs 2%). Males were more engaged in physical activities than their female counterparts (40% vs 31%). More older persons below 80 years old spent time on hobbies and activities as well as exchanged text messages with close friends and family than those aged 80 and above.

Declines and changes in older persons' sources of funds or income were observed during the pandemic. Almost a quarter (23%) said their income from work decreased compared to their pre-pandemic income. Significantly more males than females experienced this change (29% vs 20%). The age gradient also indicates an expectedly decreasing proportion with advancing age. Although very few said their pension decreased during the pandemic, more males than females felt this decrease (5% vs 1%). One in ten said their income from farming decreased amidst the pandemic; significantly more males experienced this reduction (13% vs 8%). Income from family businesses and money from children within the country diminished significantly more for younger cohorts compared to those in the older age groups.

Almost all older persons received some kind of support during the pandemic. More than half of older persons (51%) received a combination of in-kind and cash support from the government. Thirty-five percent received in-kind support whilst 5% received cash from the government. Nearly a quarter of older persons also reported receiving support from nongovernmental or humanitarian organisations. No significant gender or age differences were noted.



Chapter 1

INTRODUCTION

The Shifting Demographics of the Philippines: Towards an Ageing Society

Grace T. Cruz

The world's population is ageing, with Asia's population ageing faster than any other region due to its unusually rapid demographic transition from higher to lower birth and death rates. Asian countries, including Japan, Republic of Korea, Singapore, and Thailand are expected to have the highest share of people aged 65 and older by 2050 (United Nations Department of Economic and Social Affairs, 2023).

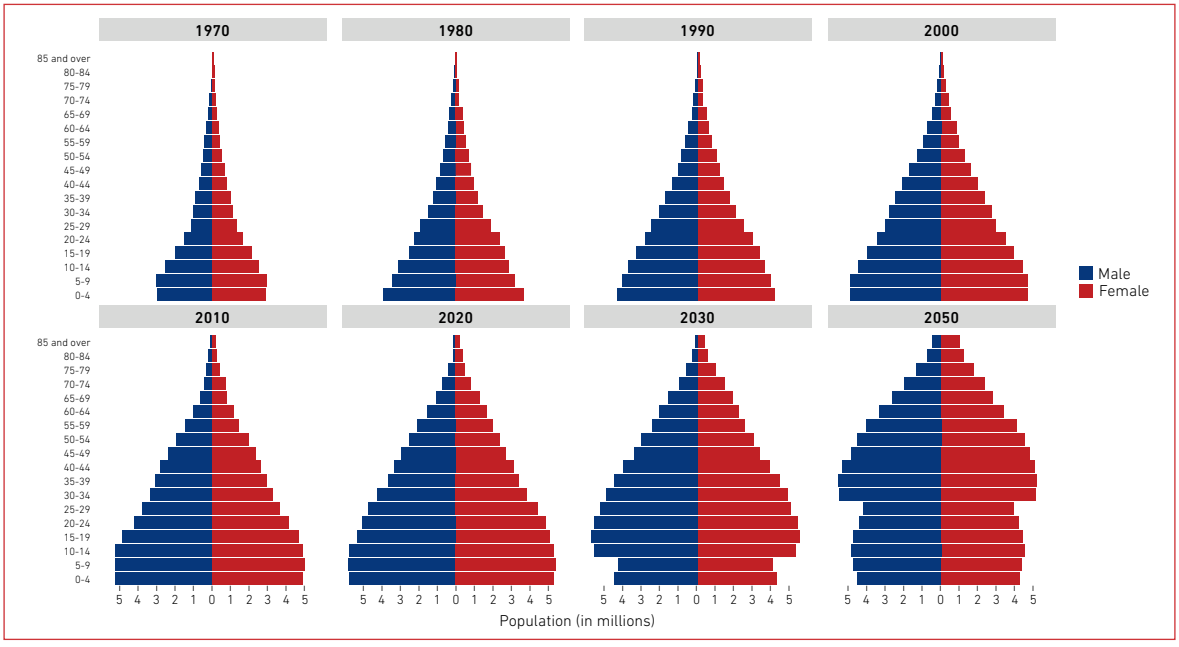
Consistent with global and regional trends, the demographic landscape of the Philippines is undergoing a significant shift. Fertility, the main driver of the country's population change, has recently experienced an unprecedented decline. The country's historically high total fertility rates, which have been gradually declining, sharply fell below replacement level, dropping from 2.7 in 2017 to 1.9 in 2022 (Philippine Statistics Authority [PSA] & ICF, 2023). The sharp fertility decline positions the Philippines amongst the low-fertility countries in the Association of Southeast Asian Nations (ASEAN) region, a stark contrast to its second-highest rank in the region just a decade ago (ASEAN, 2015).

Along with the declining fertility trend is an improving mortality picture. Similar to the general regional pattern, which shows Asians becoming healthier and living longer (Asian Development Bank, 2024), the Philippines exhibits sustained gains in life expectancy. By 2030, when the country is projected to transition to an ageing society, life expectancy at birth for males and females is estimated to reach 69.1 and 75.7,[1] respectively, up from 65.1 and 70.3 in 2000 (Cabigon, 2009). These longevity gains are mostly a consequence of reduced infant and child mortality in recent years, driven by improvements in healthcare and other socioeconomic factors, such as the enhanced educational status in the country (Chan, 2015).

The sharp fertility decline accompanied by the increasing life expectancy will impact the population's age structure, size, and growth eventually (Figure 1.1). Whilst the country's population structure is still relatively youthful, the 2020 census-based population projections anticipate a diminishing relative share of the younger age groups (below age 15), assuming the current fertility rate will hold (Figure 1.2). The projections also indicate that the share of the working-age population (ages 15–59) will continue to increase to its peak at 66% within the next decade, after which it will decline. In contrast, the share of the population 60 years old and over will experience a sustained increase, reaching the 10% mark by 2030, when the country will transition to an ageing society. This is according to the United Nations classification of an ageing society as one where the population of people over 60 years old accounts for more than 10% of the total population or where the population of people over 65 years old accounts for more than 7% of the total population (United Nations Department of Economic and Social Affairs, 1956). Using either metric, the Philippine population is projected to transition to an ageing society by 2030.

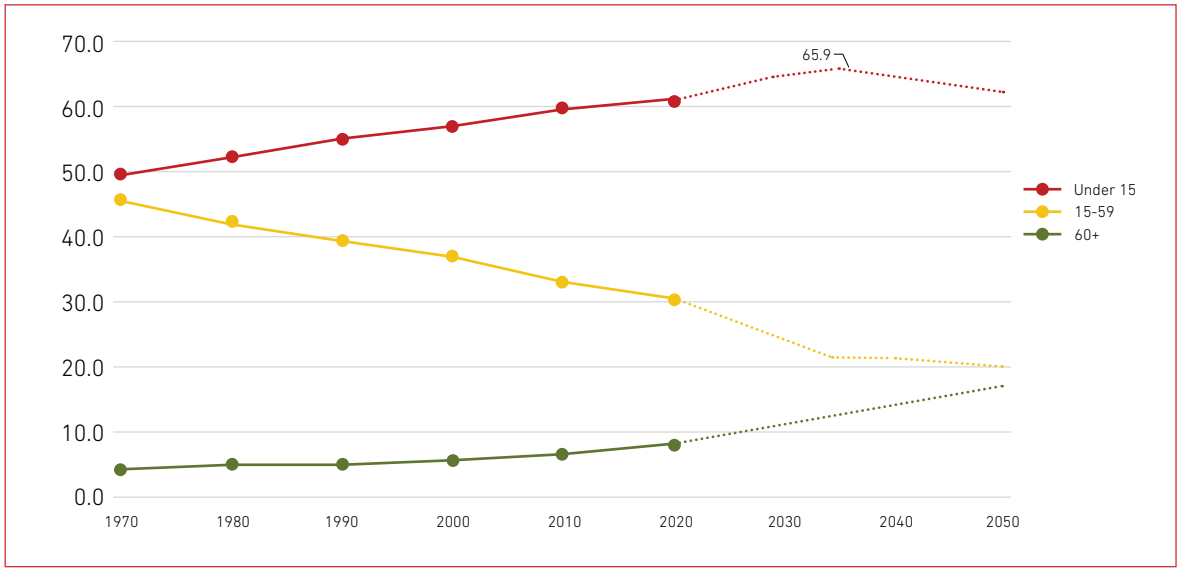
[1] These figures were based on the output of the 2020 census-based population projections of the Interagency Working Group on Population Projections (IAWGPP).

Figure 1.1. Philippine Population Size and Age Structure, 1970–2050



Source: Graph generated by the Demographic Research and Development Foundation (DRDF) using the 1970 to 2020 Census of Population and Housing (CPH; PSA, 1974, 1983, 1992, 2003, 2012, 2022) and 2030 to 2050 estimates from the 2020 census-based population projections by the Interagency Working Group on Population Projections (IAWGPP) (PSA, 2024a).

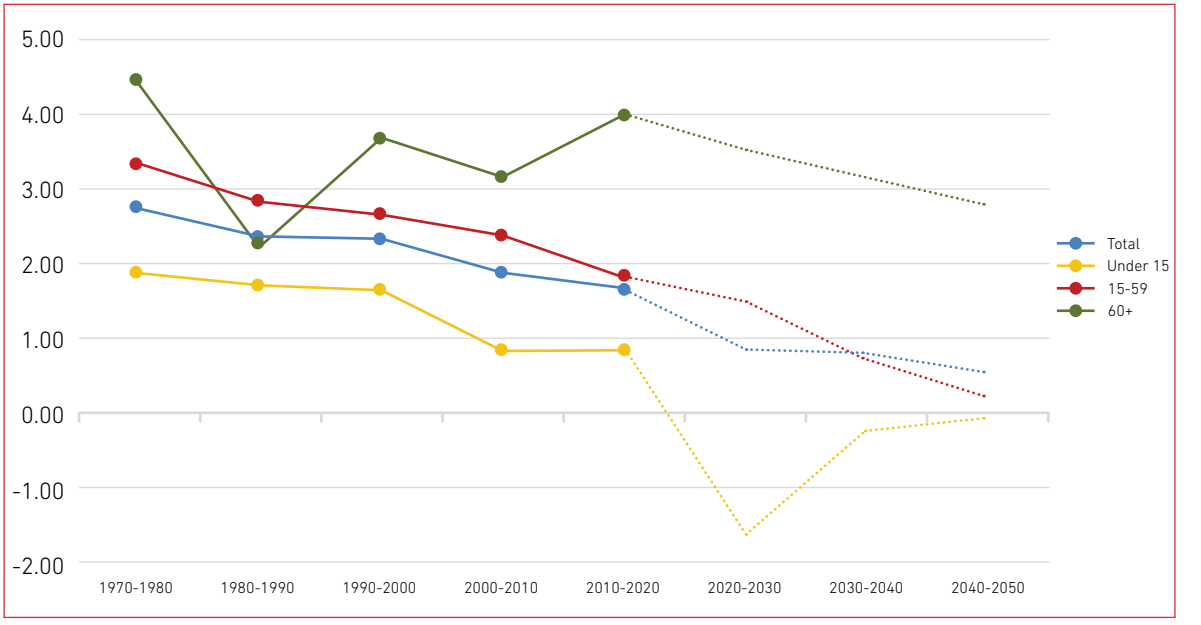
Figure 1.2. Percent Distribution of the Total Philippine Population by Age Groups, 1970–2050



Source: Graph generated by DRDF using the 1970 to 2020 CPH (PSA, 1974, 1983, 1992, 2003, 2012, 2022) and 2030 to 2050 estimates from the 2020 census-based population projections by the IAWGPP (PSA, 2024a).

The country's maturing age structure requires attention, particularly given the significant number of older people involved. In 2020, 9.3 million people aged 60 and over; this number will increase to 23.7 million by 2050. The older population is currently the fastest-growing demographic group and is expected to continue this course until 2050 (Figure 1.3).

Figure 1.3. Population Growth Rate by Age Group, Philippines, 1970–2050



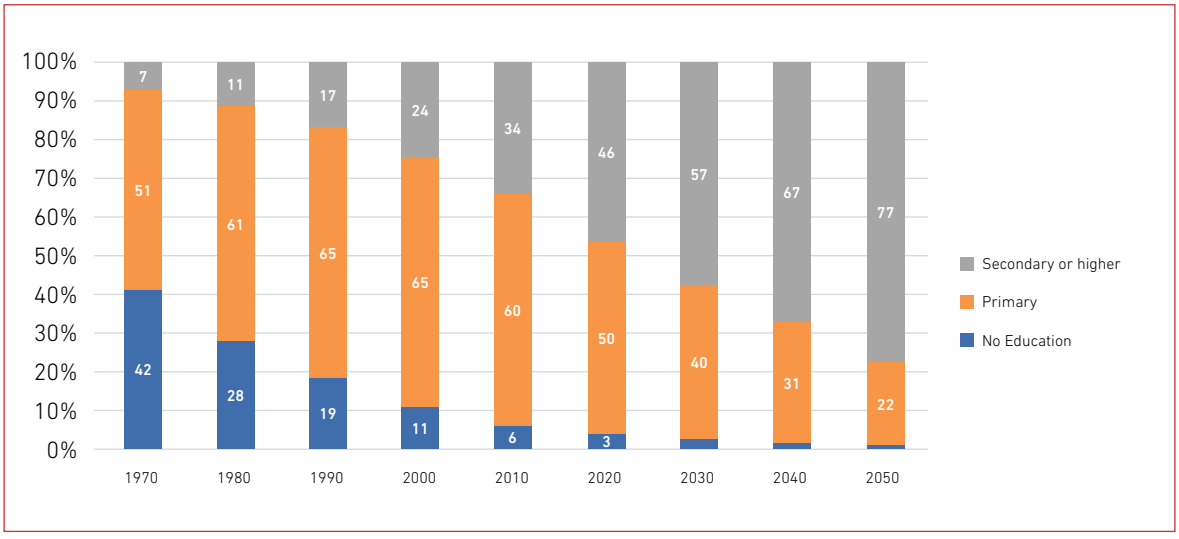
Source: Graph generated by DRDF using the 1970 to 2020 CPH (PSA, 1974, 1983, 1992, 2003, 2012, 2022) and 2030 to 2050 estimates from the 2020 census-based population projections by the IAWGPP (PSA, 2024a).

1. Preparing for an Ageing Society: Opportunities and Challenges

The evolving age structural change and the increasing number of older people are occurring alongside other major social, economic, and technological changes in the country, the interactions of which will frame the trajectory of ageing. One of the major social transformations that will profoundly impact the ageing process is education. Improvements in the educational attainment structures of populations have been established to be closely associated with health and general resilience (Lutz et al., 2019), with higher education expected to lead to better health literacy, healthier lifestyle choices, and greater access to healthcare resources, all of which contribute to increased longevity (Raghupathi and Raghupathi, 2020).

Education data from the past 5 decades indicate significant advancements in the educational attainment of older Filipinos. There has been a notable decrease in the proportion with no formal education, from over 42% in 1970 to 3% in 2020. Concurrently, the percentage of those who completed at least some secondary education surged from 7% to 46% over the same period (Figure 1.4). The continuing human capital investments in the country are expected to further improve the education profile of our incoming cohort of older persons. By 2050, the vast majority of older Filipinos are projected to have attained secondary or better education, which will have a profound impact on their health and well-being. Baseline data from the Longitudinal Study of Ageing and Health in the Philippines (LSAHP) show no significant gender differences in the education profile of older persons (Cruz & Cruz, 2019).

Figure 1.4. Educational Attainment of Older Filipinos, Aged 60 Years and Over, 1970–2050



Source: Graph generated by DRDF using data from the Wittgenstein Centre for Demography and Global Human Capital (2018).

Despite the positive education trend, LSAHP baseline data indicate that older Filipinos lack the resources to fulfil basic economic needs. They register higher poverty prevalence than the general population (University of the Philippines Population Institute [UPPI] and Demographic Research and Development Foundation [DRDF], 2020), with the majority (57%) reporting some or considerable difficulty in meeting their household expenses (Cruz, 2019). This is higher than the level for the general population, with 22% of Filipinos having difficulty meeting their basic food and non-food needs in 2018 (PSA, 2023). Older Filipinos have little assets, with only about 5% having some savings in a bank. Almost half (49%) described their early life economic status as poor (Cruz, 2019), suggesting that many of them may have lived a lifetime in poverty. At least 14% reported that their household experienced hunger in the last 3 months, and 13% said their household is a recipient of the Conditional Cash Transfer, the country's poverty alleviation programme for the poorest of the poor.

Older females are more economically fragile, with one in three (35%) dependent on transfers from their children for their main source of economic support. Only one in four (23%) mentioned earnings from work as their main source of economic support, compared to one in three (37%) amongst their male counterparts (Cruz, 2019).

Along with their economic frailty are poor health outcomes marked by functional difficulty, chronic diseases, and high unmet need for health services, amongst others. Hypertension, the fourth leading cause of death amongst older Filipinos in 2022 (PSA, 2024b), is the most prevalent diagnosed chronic illness reported by older persons (Natividad, 2019a). At least 69% of older Filipinos have hypertension, amongst whom 38% are not aware that they have hypertension (Abalos et al., 2024). Besides the low level of awareness, treatment is also low, with 52% of older persons with untreated hypertension and 87% with uncontrolled blood pressure.

Older Filipinos have low awareness of government health programmes and services for older people. Vaccine uptake for the government's free immunisation for pneumococcal disease and influenza is low. Only 41% were aware of the pneumococcal vaccine; amongst those who were aware, about half (53%) had a pneumococcal vaccination after turning 60 (Natividad, 2019b). The corresponding figures for flu vaccines are lower at 30% and 36%, respectively.

Functional difficulty is also notable, with more than a fifth (22%) of older persons having difficulty performing at least one of the activities of daily living (Cruz & Saito, 2019). Older persons also have poor oral health and sub-optimal body mass index, particularly women, who are more likely to experience obesity compared to their male counterparts. About 3 in 10 (29%) experienced unmet healthcare needs, most commonly due to a lack of financial means (86%; Natividad, 2019b). This is consistent with existing gaps in healthcare coverage, with 89% Philippine Health Insurance Corporation (PhilHealth) coverage amongst older persons either as a member or as a dependent of a PhilHealth member as of 2022 (PSA, 2024c). This is despite the law that guarantees mandatory PhilHealth coverage for all senior citizens (RA 10645) as reiterated in the Universal Healthcare Law of 2019 (RA 11223).

LSAHP Wave 1 data also provided the first national-level prevalence of sarcopenia amongst older Filipinos. Sarcopenia, a geriatric syndrome marked by a loss of skeletal muscle mass, low muscle strength, and/or low physical performance, has gained attention in recent years (Chen et al., 2020). Anthropometric data indicate that the prevalence of sarcopenia was 6.8%, whilst that of severe sarcopenia was 6.4%, with significant differences by sex and age group (Paguirigan et al., 2024).

These poor health indicators are consistent with findings showing no evidence of compression of morbidity in the country. A comparison of the active life expectancy of older Filipinos between 2007 and 2018 indicates an expansion of morbidity, with older Filipinos' health status worsening over time (Cruz et al., 2022). This suggests that whilst older Filipinos may live longer, their additional years of life may not necessarily be in good health.

Older Filipinos seem to display resilience and positive, subjective well-being amidst their health and economic vulnerabilities. The LSAHP findings show that an overwhelming majority (94%) are satisfied with their life (Ogena, 2019). Only a few feel lonely (8%), lack companionship (10%), feel left out (7%), or feel isolated from others (6%). They are socially integrated and enjoy strong and caring family support, with the majority currently co-residing with their children (60%; Cruz & Cruz, 2019). Familial support is

evident in the active reciprocal exchange of support between older persons and their children, including non-co-resident children. This is demonstrated by the remittances from children within and outside the country, which is the most important source of economic support for older women (35%; Cruz, 2019).

Older Filipinos continue to significantly contribute to their families and communities, albeit in ways that are not easily quantifiable. About 14% are engaged in volunteer work in the church or community (Ogena, 2019). A high proportion (89%) provide emotional support to their children (Marquez, 2019). Older Filipinos serve as family caregivers, particularly women, who are the main providers of spousal and intergenerational caregiving. LSAHP baseline data show that about a fourth (24%) are involved in the partial or full care of their grandchildren (Cruz and Cruz, 2019). About two thirds (67%) of older males also report that their wives are their primary caregivers (Laguna, 2019).

2. LSAHP Research Towards Ageing Health Policies and Programmes

The LSAHP's focus on the social and behavioural factors affecting health outcomes underscores the importance of the social determinants of health framework in promoting good health in old age. It highlights the necessity of a multidisciplinary research approach to studying ageing, with a special focus on integrating social science in the formulation of targeted policies towards healthy ageing. This is particularly important in the Philippines, where health inequalities are prevalent, as evidenced by the multiple disadvantages amongst those in the lowest socioeconomic spectrum. By providing a rich database and research findings, the LSAHP provides a scientific base that helps inform and direct policies and programmes towards inclusive growth and development in the country. This aligns with the United Nations Decade of Healthy Ageing (2021–2030) and the overall framework of the Sustainable Development Goals, which aim to improve the lives of older people, their families, and the communities in which they live (World Health Organization, 2020).

No doubt the results of the LSAHP baseline study have helped provide a scientific basis for the Philippine government's response to the emerging needs of the growing older population. The findings of the LSAHP have become a vital resource for government agencies leading the promotion of ageing affairs in the country, including the Department of Health (DOH), Department of Social Welfare and Development, National Commission of Senior Citizens, Commission on Population and Development, Commission on Human Rights, and the Senate and Congress of the Philippines, as well as nongovernment organisations such as the Coalition of Services for the Elderly. LSAHP findings have also informed the Interagency Technical Working Group on Active and Healthy Ageing and Development, the United Nations Open-Ended Working Group on Ageing, and other development agencies like the Asian Development Bank and the World Health Organization Western Pacific Regional Office. Further analysis of the data has been used for journal publications, enriching the existing literature on ageing in the country.

3. Structure of the Report

This report, *Ageing and Health in the Philippines: Wave 2*, is the second publication of the LSAHP project. The first report, titled *Ageing and Health in the Philippines*, was published in 2019, with its highlights discussed in an earlier section of this chapter. The current report presents a descriptive analysis of data collected from the Wave 2 survey, which includes information from surviving baseline respondents and informants for those who have died.

The report follows the structure of the Wave 1 report, with a primary focus on age and sex differentials of major indicators. All statistical tables generated in the Wave 1 report have been reproduced using Wave 2 data, although only the major indicators are discussed. Additionally, the report highlights new indicators generated from the Wave 2 data, particularly on geographic context, mortality, and COVID-19 experiences.

The report has eight chapters covering the major issues in population ageing:
Chapter 1 - The Shifting Demographics of the Philippines: Towards an Ageing Society
Chapter 2 - The Longitudinal Study of Ageing and Health in the Philippines: Wave 2
Chapter 3 - Demographic and Socioeconomic Context
Chapter 4 - Health Status, Healthcare, and Healthcare Utilisation
Chapter 5 - Geographic Context
Chapter 6 - Mortality
Chapter 7 - COVID-19 Pandemic Experiences
Chapter 8 - Discussion, Conclusions, and Recommendations

The report includes four annexes:
Annex A - LSAHP Wave 2 Sampling Design and Weights
Annex B – Creation of the Wealth Index for the LSAHP Wave 2 Survey
Annex C – Supplementary Tables
Annex D – Research Team and Field Personnel
Annex E - Advisory Committee

Wave 2 weights were used to generate the percentages and means in the statistical tables for all chapters, except for Chapter 6 (Mortality), which used Wave 1 weights. The number of cases (N) reported in the tables is unweighted.

Chapter 1 introduces this report by highlighting the changing demographic landscape that is driving the Philippines' transition to an ageing society. It discusses the main findings of the LSAHP Wave 1 study, setting the stage for the follow-up study (LSAHP Wave 2). These findings emphasise the need to consider social and behavioural determinants when formulating policies to promote healthy ageing and reduce disparities in this population sector.

Chapter 2 provides an overview of the LSAHP Wave 2 study, including the study objectives and design, data scope, questionnaires, and other field documents. It also details the Wave 2 data collection process, highlighting the challenges of conducting fieldwork in a post-COVID situation. Preparatory field activities, including panel maintenance, ethics review clearance, and data processing, are likewise discussed.

Chapter 3 examines the demographic and socioeconomic context of older Filipinos using household data. It explores the household environment of older individuals, including housing characteristics such as house and lot ownership, construction materials of the roof, walls, and floor, main source of water, and household amenities. The chapter outlines the socioeconomic profile of the older person respondents and their immediate family members, including spouses, children, and grandchildren. It also examines economic indicators such as sources of income, assets, liabilities, and the adequacy of household income for older individuals.

Chapter 4, the main chapter of the report, focuses on health status, healthcare, and healthcare utilisation. These topics, which were covered in three chapters in the Wave 1 report, examine the major health status indicators, including self-rated health, diagnosed illnesses, oral health, sleep, pain, falls, incontinence, and depressive symptoms. Well-being and health-related behaviours, such as smoking and drinking, are also discussed. Alternative health measures using functional health are examined through activities of daily living, instrumental activities of daily living, Nagi functioning measures, the Washington Group Short Set on Functioning (WG-SS), the Global Activity Limitation Indicator (GALI), and experiences of being bedridden. The report also covers new indicators in Wave 2, such as the rapid diet screener, mini nutritional assessment (MNA), and the World Health Organization-Five Well-Being Index (WHO-5). Additionally, the chapter discusses older persons' healthcare utilisation, using indicators such as inpatient utilisation, outpatient utilisation, unmet need for healthcare, health insurance coverage, and long-term care.

Chapter 5, which delves into the geographic context of older Filipinos, is a new addition to the Wave 2 report and was not covered in the Wave 1 report. Using an improved system to gather Global Positioning System (GPS) data for each respondent, this chapter explores geospatial covariates derived from locational parameters, allowing for the analysis of respondents' proximity to various social infrastructures that may significantly affect their well-being. The analysis examines urban–rural differentials and major area groups (National Capital Region [NCR], Balance Luzon, Visayas, and Mindanao) in terms of geospatial covariates for social infrastructures, particularly the distance from health and financial facilities. Incorporating geospatial data adds a valuable dimension to understanding the contextual factors influencing the well-being of older Filipinos.

Chapter 6, focusing on mortality, is also a new addition to the LSAHP. Drawing upon data from individuals reported deceased amongst those interviewed at the baseline, this chapter examines the background characteristics, living arrangements, and caregiving situations of the deceased. Additionally, it investigates healthcare utilisation patterns leading up to their demise. The chapter also discusses death registration differentials by age and sex.

Chapter 7 delves into the COVID-19 experiences of older individuals. Similar to the two preceding chapters, this section is a new addition to the Wave 2 study, shedding light on the pandemic's impact on older individuals. Topics covered include COVID-19 infection rates, hospitalisations, and vaccination status. The chapter also examines access to healthcare, daily activities, and the economic well-being of older Filipinos during the pandemic.

The report concludes with Chapter 8, which summarises the key findings and their policy and programme implications within the context of the ongoing age structural change in the Philippines. All chapters end with a summary of major findings.

The report includes several annexes: Annex A discusses the sampling design, sample, and weights used in detail; Annex B explains the calculation of the wealth index. The remaining annexes present the supplementary tables numbered according to their corresponding table numbers in the baseline report, the research team, field personnel, and the advisory committee.

References

Abalos, J.B., Y. Saito, M.A. Ramos, Jr., and G.T. Cruz (2024), 'Prevalence, Awareness, Treatment, and Control of Hypertension among Older Adults in the Philippines.' *The Journals of Gerontology: Series A*, 79(2), glad155. https://doi.org/10.1093/gerona/glad155

Asian Development Bank (2024), *Aging Well in Asia: Asian Development Policy Report*. Manila. https://doi.org/10.22617/SGP240253-3

Association of Southeast Asian Nations (ASEAN) (2015), *ASEAN Statistical Yearbook 2015*. Jakarta.

Cabigon, J.V. (2009), *2000 Life Table Estimates for the Philippines, its Regions and Provinces by Sex.* Mandaluyong City: Commission on Population.

Chan, M.F. (2015), 'The Impact of Health Care Resources, Socioeconomic Status, and Demographics on Life Expectancy: A Cross-country Study in Three Southeast Asian Countries', *Asia Pacific Journal of Public Health*, 27(2), NP972–NP983. https://doi.org/10.1177/1010539513475650

Chen, L.K. et al. (2020), 'Asian Working Group for Sarcopenia: 2019 Consensus Update on Sarcopenia Diagnosis and Treatment', *Journal of the American Medical Directors Association*, 21(3), pp.300–07.

Cruz, C.J.P. (2019), 'Economic Well-being', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines*. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.105–15.

Cruz, C.J.P. and G.T. Cruz (2019), 'Filipino Older Persons', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.27–46.

Cruz, G.T., C.J.P. Cruz, and Y. Saito (2022), 'Is there Compression or Expansion of Morbidity in the Philippines?' *Geriatrics & Gerontology International*, 22(7), pp.511–15. https://doi.org/10.1111/ggi.14398

Cruz, G.T. and Y. Saito (2019), 'Functional Health', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.75–88.

Laguna, E. (2019), 'Caring for Older Persons', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.173–92.

Lutz, W., J. Crespo Cuaresma, E. Kebede, A. Prskawetz, W.C. Sanderson, and E. Striessnig (2019), 'Education Rather than Age Structure Brings Demographic Dividend', *Proceedings of the National Academy of Sciences*, 116(26), pp.12798–803. https://doi.org/10.1073/pnas.1820362116

Marquez, M.P.N. (2019), 'Family Support and Intergenerational Exchanges', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines*. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.161–72.

Natividad, J.N. (2019a), 'Health Status', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines*. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.47–74.

Natividad, J.N. (2019b), 'Healthcare and Healthcare Utilisation', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines*. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.89–104.

Ogena, N. (2019), 'Activities, Social Isolation, and Information Technology', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines*. Jakarta: Economic Research Institute for ASEAN and East Asia, pp.129–48.

Paguirigan, M.R.B., M.K.S.I. Cabaraban, G.T. Cruz, M.A. Ramos, C.J.P. Cruz, and Y. Saito (2024), Prevalence and Associated Factors of Sarcopenia among Older Filipinos. [Manuscript in preparation].

Philippine Statistics Authority (PSA) (1974), *1970 Census of Population and Housing*. Quezon City: PSA.

PSA (1983), 1980 *Census of Population and Housing*. Quezon City: PSA.

PSA (1992), 1990 *Census of Population and Housing*. Quezon City: PSA.

PSA (2003), 2000 *Census of Population and Housing*. Quezon City: PSA.

PSA (2012) 2010 *Census of Population and Housing*. Quezon City: PSA.

PSA (2022), 2020 *Census of Population and Housing*. Quezon City: PSA.

PSA (2023), *Preliminary 2023 First Semester Official Poverty Statistics* (No. 2023-391). Quezon City: PSA. https://psa.gov.ph/statistics/poverty/node/1684061846

PSA (2024a), 2020 *Census-based National Population projections*. [Dataset]. Quezon City: PSA.

PSA (2024b), R*egistered Deaths in the Philippines, 2022*. [Dataset]. Quezon City: PSA.

PSA (2024c), 2022 *Annual Poverty Indicator Survey.* [Dataset]. Quezon City: PSA.

PSA and ICF (2023), 2022 *Philippine National Demographic and Health Survey (NDHS): Final Report.* Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF..

Raghupathi, V. and W. Raghupathi (2020), 'The Influence of Education on Health: An Empirical Assessment of OECD Countries for the Period 1995–2015. *Archives of Public Health*, 78(1), p. 20. https://doi.org/10.1186/s13690-020-00402-5

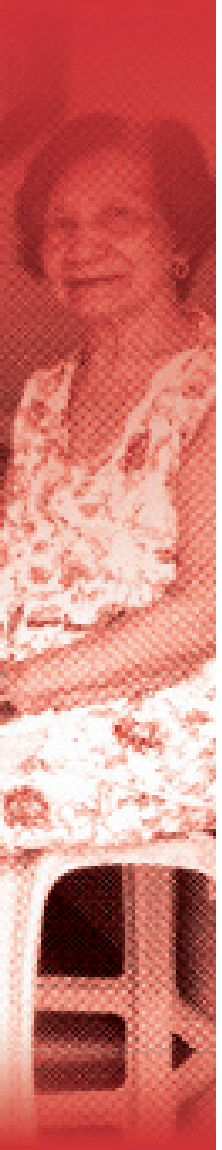
United Nations Department of Economic and Social Affairs (2023), *World Social Report 2023: Leaving No One behind in an Ageing World*. New York: United Nations.

United Nations Department of Economic and Social Affairs (1956), *The Aging of Populations and its [their] Economic and Social Implications.* New York: United Nations.

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation, Inc. (DRDF) (2020) 'COVID-19 and the Economic Vulnerability of Older Filipinos', *UPPI/DRDF Research Brief* No. 2. https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19-Research-Brief-02.pdf

Wittgenstein Centre for Demography and Global Human Capital (2018), Wittgenstein Centre Data Explorer Version 2.0. http://www.wittgensteincentre.org/dataexplorer

World Health Organization (2020), *UN Decade of Healthy Ageing: Plan of Action 2021–2030*. https://www.who.int/publications/m/item/decade-of-healthy-ageing-plan-of-action



Chapter 2

The Longitudinal Study of Ageing and Health in the Philippines: Wave 2

Christian Joy P. Cruz
Grace T. Cruz
Yasuhiko Saito

The Longitudinal Study of Ageing and Health in the Philippines: Wave 2 (LSAHP W2) is the follow-up interview of the 5,985 baseline respondents from the LSAHP conducted from October 2018 to February 2019. The LSAHP has two primary objectives: (i) to examine the health status and well-being of older Filipinos, along with the factors that influence these outcomes; and (ii) to supply data for analysing the factors determining health status and changes in health status over time.

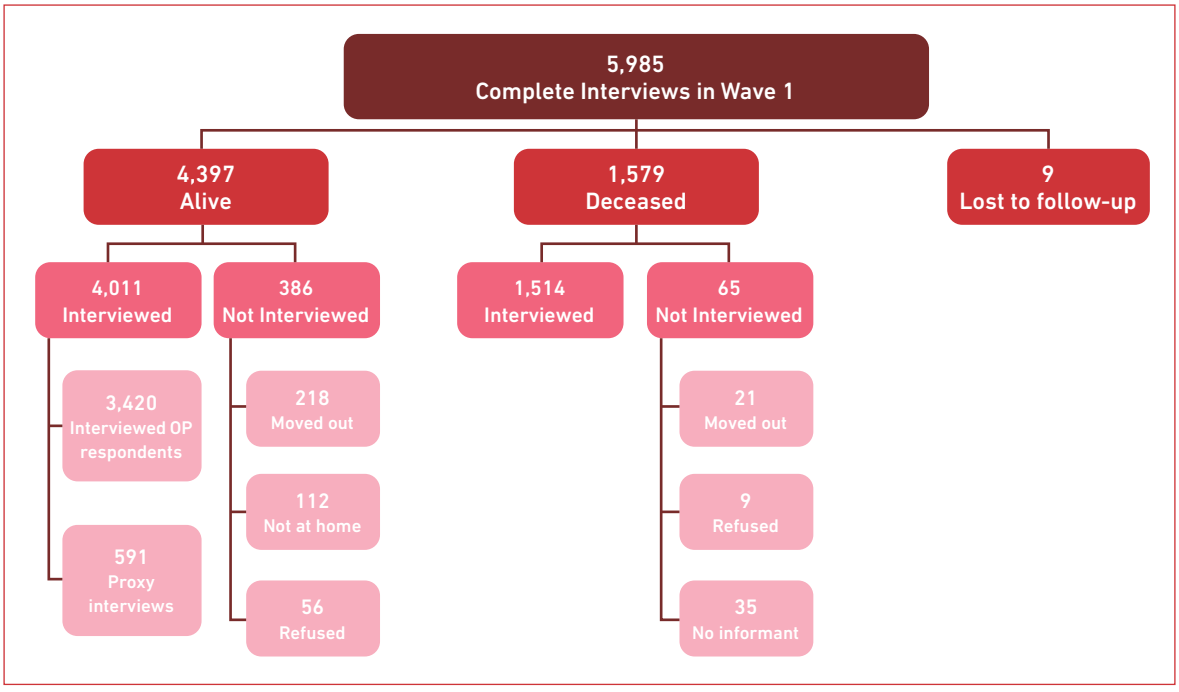
The first objective was addressed in the report titled *Ageing and Health in the Philippines*, which utilised the baseline data of the LSAHP (bit.ly/DRDF-LSAHP2018). The second objective will be addressed by assessing health transition rates using the linked Wave 1 (W1) and W2 data. The linked data is the first nationally representative panel data on older Filipinos, contributing to the growing ageing data and research in the country. The LSAHP panel study places the Philippines amongst Asian countries with panel data on ageing, facilitating comparative studies with other nations with similar data, such as Viet Nam.

This report focuses only on the W2 data set. It provides a comprehensive picture of older Filipinos' health and well-being, including topics not covered in the W1 report, such as diet and nutrition, geographic context, mortality, and COVID-19 pandemic experiences.

1. Study Sample

Given its panel design, all baseline respondents were revisited at their addresses from W1. Of the original 5,985 respondents, 4,397 were still alive at the time of the W2 interview; 1,579 were deceased; and 9 could not be located (Figure 2.1). Amongst those who could not be located were two males and seven females. They include two from Metro Manila, five from other parts of Luzon, and one each from the Visayas and Mindanao. Of the nine respondents who could not be located, all but one are urban residents; the remaining respondent is from a rural area. Of those alive, 4,011 were reinterviewed and 386 were not interviewed for various reasons such as residential change (218), not at home at the time of the interview (112) and refusing to be interviewed (56). Amongst those alive and successfully interviewed, 591 (about 15%) were proxy interviews, whilst the remaining 3,420 were personal interviews. The reasons for proxy interviews include hearing and speaking difficulty, illness or hospitalisation, and not passing the cognitive assessment test. Similar to W1, older persons underwent a cognitive assessment test to determine their ability and fitness to answer questions. Those who scored below the cognitive test cut-off score could not proceed with the interview but were allowed a proxy to answer only factual questions.

Figure 2.1. LSAHP Wave 2 Study Sample



Source: Calculated by DRDF using original LSAHP W2 data.

Informants were interviewed to collect data on 1,514 deceased W1 respondents. The informant is someone who has good knowledge of the circumstances surrounding the death of the deceased older person. No informant was interviewed for 65 deceased respondents.

The W2 response rate is 93.4%, which was calculated by adding the total number of completed interviews (4,011) and the total number of deceased respondents (1,579) divided by the total number of W1 respondents (5,985). This is comparable with the 94% W1 survey response rate. Computer-assisted personal interviews were conducted using CSPro software. Global Positioning System (GPS) data was also collected from 4,011 households.

Anthropometric data was collected from 3,922 respondents (98% of the living older persons interviewed; Table 2.1). Anthropometric measurements were not collected from bedridden, disabled, or ill older persons or those unable to perform the required measurements. A total of 3,780 current and potential caregivers, along with 2,595 children of older persons, were also interviewed. In the absence of eligible respondents, preference was given to caregiver interviews; therefore, children who were caregivers of the older persons were interviewed using the caregiver questionnaire rather than the child questionnaire. This explains the higher number of caregivers interviewed.

Table 2.1. Total Number of LSAHP Wave 1 and Wave 2 Respondents Interviewed by Type of Questionnaire

Questionnaire	W1 Sample Respondents	W2 Sample Respondents and Informants
Household	5,985	4,028
Main	5,985	4,011
Anthropometric	5,728	3,922
Adult child	3,570	2,595
Caregiver	5,142	3,780
Mortality	-	1,514

Source: Calculated by DRDF using original LSAHP W2 data.

The W2 survey employed seven types of survey instruments, which included the five questionnaires from the baseline study (household, main, anthropometric, adult child, and caregiver) and two additional questionnaires covering mortality and verbal autopsy (VA). The five questionnaires from the baseline study were updated. New questions were introduced in the main questionnaire, covering topics such as the ownership and use of blood pressure monitors at home, COVID-19 experiences, diet and nutrition, and the World Health Organization (WHO) Well-Being Index. However, a few questions from the older person's main questionnaire were removed, such as basic non-time-varying sociodemographic attributes, questions on generativity, certain details on smoking and drinking behaviours, and reasons behind desires and attitudes towards homes for the aged. Additionally, new gait speed measures (straight 5 metres [m] and 6 m) and hip circumference were added to the anthropometric questionnaire. However, the performance test using a peak flow metre was omitted due to concerns about potential infection risks, particularly considering recent experiences with the COVID-19 pandemic. Willingness to answer an online survey was added as a question for the adult child and caregiver questionnaires.

The additional mortality questionnaire collected information regarding the circumstances of the older person's death, including the date, place, and cause of death, as well as information on death registration, the older person's health care utilisation within the 12 months leading up to their death, and the caregiver and living arrangement at the time of death. Additionally, the background characteristics of the informants were collected, including their relationship with the older persons interviewed at W1. Informants were also asked about their participation in the W1 survey, specifically whether they were interviewed as adult children or caregivers.

The VA questionnaire was also employed to examine potential causes of death. We utilised the 2022 WHO VA instrument, a structured questionnaire used to collect information about the symptoms before the older person's death. The data was collected in an Online Data Kit format, operating on Android tablets. Informants for the VA questionnaire were any of the older person's family members, relatives, caregivers, or close associates. Generally, the informant for the mortality and VA questionnaires was the same person.

On average, the household questionnaire interview lasted around 25 minutes; the corresponding interview durations were 70 minutes for the main questionnaire, 25 minutes for the anthropometric questionnaire, 12 minutes for the caregiver questionnaire, and 9 minutes for the mortality questionnaire. To avoid overburdening the older respondent, another eligible household member was chosen as the respondent for the household interview.

2. Field Preparatory Activities

Data collection for W2 followed the field procedure employed for W1, including questionnaire pretesting, translation, and back translation of new questionnaires, updating of field manuals, and development and pretesting of the tablet questionnaire. Translation and back translation were done in three major languages: Filipino, Cebuano, and Waray.

W2 weights were applied in the analysis to ensure the national representativeness of the original sample of older persons aged 60 and over at W1 who are 64 years and over at W2. W2 weights were derived using the original W1 weights adjusted for attrition between the two waves due to death and lost to follow-up. All data presented in this report were weighted using the calculated W2 weights, except for the mortality chapter (Chapter 6), which used the W1 weights. For a more detailed discussion of the sample weights, please see Annex A.

3. Panel Maintenance Activities

To prepare for the W2 survey, several panel maintenance activities were conducted to ensure a high response rate during the follow-up interview. These activities were designed to remind respondents about the study and to prepare them for the follow-up interview. The initial interim activity involved sending greeting cards to respondents via postal mail from November to December 2019, using the addresses collected during the baseline survey. Out of the 5,985 cards mailed, approximately 400 were returned, primarily due to reasons such as insufficient addresses, the inability to locate addresses, or the intended recipients having relocated to a different residence.

The COVID-19 pandemic interrupted the study timeline, resulting in the postponement of the follow-up survey from 2 years after the baseline to 4 years after the baseline. Due to the delay, a phone call follow-up survey was conducted in August 2021 to reconnect with the respondents, or their adult children, or caregivers to better facilitate the follow-up interview. Approximately 72% of the 5,985 older persons from the baseline survey were contacted (4,317 older persons). The remainder could not be reached for various reasons, including insufficient addresses, outdated phone numbers, or phone numbers that were no longer functional, particularly amongst those residing in remote and geographically isolated areas. Amongst those contacted, 85% were still alive whilst 15% were reported deceased. Respondents of the follow-up survey were also asked whether they received the LSAHP greeting card sent by the team in 2019, with about one in three contacted older persons reporting having received it. Nearly all contacted older persons (97%) were still residing at the same home address.

4. Ethics Clearance

As part of the standard procedure to uphold ethical standards in conducting research, the LSAHP secured approval of the Continuing Review Application for the LSAHP from the University of the Philippines Manila Research Ethics Board Panel 2 before the start of field work. The LSAHP W2 clearance included the conduct of a VA questionnaire. In compliance with the provisions of the ethics clearance, LSAHP field personnel secured the consent of the older person or proxy, caregiver, adult child, and household respondent before the interview.

5. Training of Field Personnel

Three training sessions for field supervisors and field interviewers were conducted in Luzon (including Metro Manila), Visayas, and Mindanao. Each training lasted for 5 days and covered various aspects of field interviews, including an in-depth discussion of each questionnaire and its translation into the local languages, practice interviews, orientation in the use of tablets (computer-assisted personal interviews), and actual field interviews conducted in areas near the training venues which were not part of the study sample. Most field interviewers were drawn from the same pool involved in W1 data collection; thus, they were familiar with the questionnaires and field areas.

6. Field Work

The W2 fieldwork was conducted from 23 January to 8 April 2023, approximately 4 years after the baseline interview. The field interviews commenced after receiving the approval of the Ethics Continuing Review Application for the LSAHP.

To facilitate the field work, endorsement letters were obtained from both the Department of Health (DOH) and the Commission on Population and Development. These letters played an important role in gaining access to certain local government units, particularly those exercising caution in accepting visitors due to health and political considerations. During the courtesy calls for the W2 survey, copies of the LSAHP report were distributed to the local chief executives. This report distribution was intended to remind local government officials of the findings based on the baseline data collected between 2018 and 2019.

The majority of the field personnel involved in the baseline survey were rehired for W2 to facilitate data collection. Their familiarity with the project and the study areas played an important role in ensuring that all baseline respondents were visited. To validate that the follow-up respondent was the same as the baseline respondent, we first asked for the name, address, and other characteristics of the respondent. We also asked whether they received the greeting cards sent by the LSAHP team. Additionally, senior citizen identification cards were used to confirm the respondents' identities.

As anticipated, only a small number of baseline respondents relocated to another municipality or province (239 respondents or 4%), which resulted in them not being interviewed. A total of 112 respondents (2%) were not interviewed because they were not at home during the three scheduled visits. As a matter of protocol, interviewers were required to make three visits to the respondent to ensure a higher response rate. In many cases, the field interviewers visited some of these respondents more than three times.

In recent years, collecting survey data has become more challenging. Despite having endorsement letters from different national government agencies, securing permits to conduct the interviews from local government units, particularly the mayor and barangay (smallest administrative division or unit) officials, has become more difficult, and the field personnel faced increasing instances of being red-tagged[1], particularly in remote municipalities and barangays. A few local government officials cast doubt on the credibility and intentions of the survey due to its association with the university. This lack of trust extended to the families of the respondents, potentially leading to a refusal to participate in interviews.

Field personnel also had to contend with unpredictable weather conditions, which exposed them to additional environmental hazards and risks due to typhoons and flooding. These weather changes, coupled with the lingering effects of the COVID-19 pandemic, sometimes compromised the health conditions of field personnel.

The field teams had to adapt to advancing technology in survey data collection. Whilst the baseline survey data was collected through face-to-face interviews using tablets, keeping up with technology posed challenges for the follow-up survey. Preparatory tasks necessitating internet access to download the tablet questionnaires and list of respondents proved challenging, particularly in remote areas with limited internet connectivity. Some of the tablets used for the data collection also encountered technical problems and lacked sufficient storage capacity. In addition, the limited quantity of devices available for anthropometric measurements caused delays in data collection. However, increasing the number of these devices would have required additional resources and burdened the field personnel with heavier loads to carry.

Due to the advanced age of the respondents, some of whom may have hearing impairments and limited mobility, the lengthy questionnaire posed challenges for both the respondent and the field interviewer. This often led to fatigue and loss of focus for both parties and in extreme cases resulted in the respondent refusing to continue with the interview.

These challenges were compounded by rising transportation costs and living expenses.

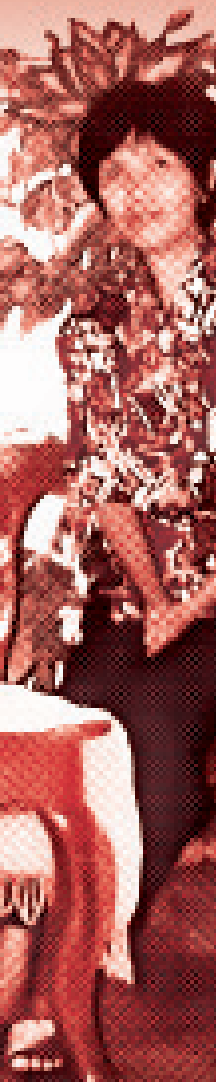
[1] Red-tagging is 'an act of State actors, particularly law enforcement agencies, to publicly brand individuals, groups, or institutions as affiliated to communist leftist terrorists' (Commission on Human Rights, 2021).

7. Debriefing of Field Interviewers

After completing the field work, three debriefing sessions for field supervisors and interviewers were conducted in the three major area groups covered in the study. Professional psychologists were hired to facilitate these sessions to discuss field experiences and address field issues and concerns encountered. Suggestions were also gathered to help improve future similar data-gathering activities.

References

Commission on Human Rights (2021), 'On the Red-tagging of Human Rights Groups, Civil Society Organizations, and Individuals in the Cordillera', *Human Rights Advisory* CHR-CAR-A-2021-003). https://chr2bucket.storage.googleapis.com/wp-content/uploads/2022/04/08155025/Human-Rights-Advisory-On-the-Red-tagging-of-human-rights-groups-civil-society-organizations-and-individuals-in-the-Cordillera-0CHR-Car-Advisory-CHR-CAR-A-2021-003.pdf



Chapter 3

Demographic and Socioeconomic Context

Christian Joy P. Cruz
Mark Ryan B. Paguirigan

The demographic structure of the Philippines is slowly but steadily shifting due to societal changes, including a significant decline in the fertility rate below replacement level and advancements in life expectancy. These changes significantly contribute to the increasing share of older individuals, which is anticipated to reach 10% of the total population by the end of the decade. This demographic shift will result in the classification of the Philippines as an ageing society. The growth in the population of older persons necessitates a thorough assessment of their demographic and socioeconomic conditions. This preparation is important as it will have significant implications for key sectors like the labour market, healthcare, and resource distribution. Such analysis will provide updated evidence that can guide the government in developing targeted strategies to address emerging challenges and ensure sustainable social protection for older people.

The LSAHP Wave 1 (W1) conducted from 2018 to 2019 provided cross-sectional data on older Filipinos. Whilst changes in characteristics due to ageing and mortality were anticipated, certain patterns persisted when we revisited the respondents for the follow-up interview (W2) 4 years after the initial survey.

In this chapter, using data from the LSAHP W2, we present the characteristics of older persons aged 64 years and older who are still alive. We begin by examining the household and housing characteristics of the older-person respondents. We then present their demographic characteristics, which include their living arrangements, characteristics of their parents and siblings, characteristics of their spouses, and characteristics of their children and grandchildren. Moreover, we offer insights into the socioeconomic situation of older Filipinos.

1. Household and Housing Characteristics

1.1. Household Characteristics

The households of the 4,011 older persons who survived collectively consist of 15,863 members (Table 3.1). On average, these households have 4.0 members, slightly below the national average of 4.1 persons per household (Philippine Statistics Authority [PSA], 2022). The average age of household members is 50 years. In the LSAHP, each household has at least one older person, a unique characteristic that differentiates our study households from the typical Filipino household. Approximately 75% of these sample households are headed by older persons, with a higher percentage among males (53%) than females (47%). Additionally, 1 in 10 households of surviving older persons reported having a member currently working overseas. This is higher by 6 percentage points than the level of 4% at W1 (Cruz and Cruz, 2019), suggesting the growing impact of international migration on households of older persons in the country.

Table 3.1. Household and Housing Characteristics

A. Household Characteristics	Mean
Mean age of household members	
Males	44.95
Females	52.47
Both sexes	49.50
N	*15,863*
Mean household size	3.95
N	*4,011*
	%
Households headed by an older person	74.3
Households headed by males	53.2
Households headed by females	46.8
Households with an overseas Filipino worker	9.5
Households with a recipient of the *Pantawid Pamilyang Pilipino Program* or conditional cash transfer program	11.6
Households that experienced hunger in the last 3 months	7.3
N	*4,011*
Frequency of hunger	
Only once	15.8
A few times	58.8
Often	21.5
Always	3.9
N	*315*
B. Housing Characteristics	**%**
Own house and lot	67.7
In dwellings with roof made of strong materials	85.2
In dwellings with floors made of cement, marble, or ceramic tiles	79.3
In dwellings with walls made of concrete, brick, or stone	64.4
With electricity	96.3
Main source of drinking water	
Water piped inside house	15.5
Water piped into yard or plot	2.6
Water piped to neighbour	2.2
Public tap	5.8
Tube well or borehole	9.0

B. Housing Characteristics	%
Protected well	1.7
Protected spring	7.0
Bottled water or refilling station	54.8
Others (e.g. rainwater, surface water)	1.3
Main source of water for other purposes like cooking and handwashing	
Water piped inside house	59.0
Water piped into yard or plot	5.0
Water piped to neighbour	3.1
Public tap	7.5
Tube well or borehole	13.3
Protected well	2.7
Protected spring	5.9
Others (e.g. rainwater, surface water)	3.5
With flush toilet	88.1
Household amenities	
Air conditioner	18.0
Washing machine	45.8
Stove with oven or gas range	22.4
Refrigerator or freezer	47.9
Personal computer or laptop	17.5
Cellular phone or mobile phone	74.8
Landline or wireless telephone	6.5
Audio component or stereo set	11.3
Karaoke, videoke, or Magic Sing	9.4
CD, VCD, or DVD player	6.7
Television	69.5
Radio or radio cassette player	31.8
Internet access	50.0
Vehicles	
Motorised banca or boat	2.4
Car, jeep, or van	6.3
Motorcycle or tricycle	31.1
N	*4,011*

Source: Calculated by the DRDF using original LSAHP W2 data.

The LSAHP also collected information on enrolment in and availment of government poverty alleviation programmes as well as experiences of hunger as indirect indicators of poverty. Regarding their poverty experience, about 12% of these households receive support from the government through the conditional cash transfer programme known as the *Pantawid Pamilyang Pilipino Program* (4Ps). The 4Ps aims to provide short-term cash assistance to help the poorest households meet their needs and to invest in human capital such as health, nutrition, and education to break the intergenerational cycle of poverty in the long term (Department of Social Welfare and Development, 2021). A considerable portion (7%) of these sampled households reported experiencing hunger in the 3 months before the survey. Among them, a quarter (25%) experienced severe hunger, indicating that they often or always experienced hunger during that period.

1.2. Housing Characteristics

Two-thirds (68%) of the households of surviving older persons own the house and lot where they currently reside. The majority (85%) of these housing units have durable roofs, 79% have floors made of cement, marble, or ceramic tiles, and 64% have walls constructed from permanent materials such as concrete, brick, or stone. Approximately 4% of households do not have access to electricity – 4 percentage points lower than W1 (Cruz and Cruz, 2019).

Similar to the W1 survey, LSAHP W2 gathered information on the primary sources of drinking water and toilet facilities in the households of older persons to monitor progress towards meeting Sustainable Development Goal Target 6.2. This target aims to ensure access to adequate and equitable sanitation and hygiene for all and to eliminate open defecation (United Nations, 2017). The primary sources of drinking water include purchased bottled water or water from refilling stations (55%), water piped into dwelling units (16%), tube wells or boreholes (9%), protected springs (7%), and public taps (6%). Only 1% of these households get their drinking water from unsafe and untreated sources such as rain or surface water. For other purposes such as cooking and handwashing, the main sources of water include piped water inside the house (59%), tube wells or boreholes (13%), public taps (8%), and protected springs (6%). In terms of sanitation and hygiene, a great majority (88%) of the households of surviving older persons have a flush toilet.

In LSAHP W2, questions were also asked about the ownership of amenities, appliances, and vehicles to help assess the socioeconomic status of the households of surviving older persons. The most common appliances owned include cellular phones (75%), televisions (70%), refrigerators (48%), washing machines (46%), and radios (32%). Half of these households have access to the internet (50%). The most commonly owned vehicles are motorcycles and/or tricycles (31%).

2. Profile of Surviving Older Persons

2.1. Background Characteristics

This section describes the characteristics of Filipino older persons aged 64 and older, derived from the nationally representative study sample of surviving LSAHP respondents. Consistent with the overall pattern in the Philippines, females represent the majority, accounting for 64% of the surviving older persons (Table 3.2). This demographic advantage is also evident in the sex ratio among older persons, at 57 males for every 100 females. This sex ratio is lower than the W1 ratio of 68 males for every 100 females, indicating an increasing feminisation with the ageing age structure. This is consistent with patterns observed in other ageing countries (Reyes, 2020; United Nations Economic Commission for Europe (UNECE) Working Group on Ageing, 2020). The mean age is 73 years old, with males averaging 72 years and females averaging 73 years.

Table 3.2. Percent Distribution of Older Persons by Sex and Age

Background Characteristics	%
Sex	
Male	36.3
Female	63.7
Age	
<70	42.4
70–79	40.8
80+	16.9
Mean age	
Male	71.59
Female	73.22
Both sexes	72.63
N	*4,011*

Source: Calculated by the DRDF using original LSAHP W2 data.

Marital status shows significant differences across sex and age, with more males currently married (58%) and more females widowed (62%; Table 3.3). Only 6% of older Filipinos have experienced the dissolution of their marriages or unions through legal separation, annulment, or divorce. A higher proportion of males (8%) than females (3%) are in informal live-in arrangements. The difference in marital status between sexes is consistent with the W1 results, underscoring the higher likelihood of older males to remarry or form new unions following the death of their spouses. However, to be

certain of this, there is a need to consider the differences in age at marriage of males and females and differential mortality by sex. Five percent of older Filipinos have never married, with a higher proportion among males (6%) than females (4%). The level of widowhood increases with age, from 34% amongst those under 70 years old to 76% amongst those 80 years and older.

Table 3.3. Sociodemographic Profile of Older Persons by Sex and Age

Sociodemographic Profile	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Marital status								
Never married	5.7	3.8		4.9	4.5	3.4		4.5
Currently married	57.9	24.7		48.9	33.4	14.6		36.8
Living in	8.3	2.9	***	6.2	5.1	1.0	***	4.9
Annulled, divorced, or separated	4.6	6.4		6.4	5.5	4.7		5.7
Widowed	23.4	62.2		33.6	51.5	76.3		48.1
Education								
No schooling or preschool	4.3	5.5		4.6	3.3	10.2		5.0
Elementary	62.5	60.3	*ns*	52.5	67.5	66.9	***	61.1
High school	26.2	23.4		29.8	21.7	17.6		24.4
College or higher	7.1	10.9		13.1	7.5	5.3		9.5
Religion								
Roman Catholic	86.4	82.1	*	85.3	82.2	83.2	*ns*	83.7
Others	13.6	17.9		14.7	17.8	16.8		16.3
Place of residence								
Rural	54.8	48.9	*	47.6	53.1	54.8	*ns*	51.0
Urban	45.3	51.1		52.4	46.9	45.2		49.0
Work status								
Currently working	42.2	30.9	**	49.6	30.4	9.5	***	35.0
Not currently working	57.8	69.1		50.4	69.6	90.5		65.0
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Surviving older persons in the LSAHP also have a relatively low level of education, with elementary education being the most common educational attainment, mirroring the results of the W1 study. Slightly more than three in five surviving older persons (61%) reported having attained at most an elementary education, with no significant difference by sex (Table 3.3). Close to a quarter (24%) reached the high school level, whilst 10% have a college education. Five percent either did not receive

formal schooling or received at most a preschool education. These findings, when compared with the education profile at the baseline, highlight the notable advancements in educational attainment across different age groups of surviving older persons. This is particularly evident in the proportion with at least some college education, which is 13% amongst those less than 70 years old as compared to 5% amongst those aged 80 and over.

Like the broader population, a great majority (84%) of older Filipinos identify as Roman Catholics. More older persons live in rural areas (51%) than in urban areas (49%), with the preference for rural residence higher amongst males (55%) than females (49%). Approximately one-third of surviving older persons (35%) are working; this percentage is higher amongst males (42%) than females (31%). As expected, the proportion of those working decreases with age, declining from 50% amongst those under 70 years old to 10% amongst those aged 80 years and older.

2.2. Living Arrangements

Studies have emphasised the importance of understanding the living arrangements of older people as they directly affect their health and well-being (e.g. Sánchez-Moreno et al., 2024). Information on the living arrangements of older Filipinos is essential to crafting appropriate and effective interventions that support their active and healthy ageing process, especially with the expected growth in this sector of the population. Living with at least one child continues to be the most common living situation amongst older Filipinos (59%), consistent with findings from the LSAHP W1 survey and the 1996 Philippine Elderly Survey (UPPI and DRDF, 2022) and 2007 Philippine Study on Ageing (Cruz et al., 2016; Cruz and Cruz, 2019; Table 3.4). About 12% live alone, and 10% co-reside with their spouse only. The majority (64%) of those living alone have children living in the same barangay; this arrangement is more common amongst females (79%) than males (31%). Over a third (36%) of older Filipinos living alone do not have any children residing in the same barangay, which may imply their increased vulnerability and need for intervention. Notably, there is no difference in living arrangements across sex and age.

Table 3.4. Living Arrangement of Older Persons by Sex and Age

Living Arrangement	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Living arrangement								
Living alone	10.4	12.5		8.7	12.7	16.8		11.7
Living with spouse only	13.8	7.3		12.5	9.2	3.9		9.7
Living with at least 1 child	59.3	59.1	*ns*	59.6	57.3	62.5	*ns*	59.2
Other types of arrangement	16.5	21.2		19.1	20.9	16.8		19.5
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

Living Arrangement	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Amongst those living alone								
Without children living in the same barangay	69.3	20.8	***	55.3	28.7	25.7	ns	36.4
With children living in the same barangay	30.8	79.2		44.8	71.3	74.3		63.6
N	*158*	*343*		*83*	*208*	*210*		*501*

***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.3. Characteristics of Family Network

The Philippine government entrusts the responsibility of caring for older persons to the family (Philippine Constitution, 1987). Understanding the familial context is crucial because it serves as the channel through which older people exchange resources and assistance. Kinship plays an important role in discussions about the well-being of older Filipinos. This section details the characteristics of the older persons' family network, including parents, siblings, spouses, children, and grandchildren, to evaluate the size and quality of these networks.

As expected, only a few older persons have surviving parents; 4% have surviving mothers, whilst 1% have surviving fathers (Table 3.5). The difference across age groups is significant, with 7% of older persons below 70 years old reporting that their mothers are still alive compared to less than 1% amongst those aged 80 years and older. The educational attainment of the parents of these older persons is generally low, with 11% reporting that their fathers reached at least high school and 8% reporting the same for their mothers.

Table 3.5. Characteristics of Parents and Siblings by Sex and Age

Characteristics of Parents and Siblings	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% with living parents								
Father	2.6	0.5	*ns*	0.8	2.2	0.0	ns	1.3
Mother	4.0	3.5	*ns*	6.8	1.7	0.8	***	3.7
Highest educational attainment of father								
No schooling or preschool	21.0	14.2		14.9	17.2	19.9		16.7
Elementary	48.4	49.7		51.9	51.3	37.3		49.2
High school	8.0	8.0	*	11.5	5.4	5.4	***	8.0
College or higher	2.3	3.5		3.4	3.4	1.4		3.1
Do not know	20.3	24.6		18.3	22.7	36.0		23.1
Highest educational attainment of mother								
No schooling or preschool	23.3	15.1		15.1	19.6	21.7		18.0
Elementary	50.6	57.4		61.8	53.5	41.1		54.9
High school	6.3	5.0	*ns*	6.8	5.2	2.7	***	5.5
College or higher	2.3	2.2		3.6	1.5	0.6		2.2
Do not know	17.5	20.4		12.7	20.3	33.8		19.4
Mean number of siblings	6.95	6.32	**	6.76	6.47	6.23	*	6.55
Mean number of living siblings								
All	3.80	3.31	*	4.24	3.36	1.90	***	3.49
Brothers	1.88	1.45	**	1.93	1.61	0.78	***	1.60
Sisters	1.92	1.86	*ns*	2.30	1.76	1.12	***	1.88
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

On average, surviving older persons have seven siblings, with three still living. The average number of living siblings is higher amongst males than females (4 vs 3). An age gradient is evident as the number of living siblings decreases with age, indicating historically high but declining fertility rates over time.

Older persons who were currently or previously in a union, either through formal marriage or live-in arrangements, were asked about their spouses' educational attainment. Consistent with the W1 study, surviving older persons have a lower educational profile than their spouses (Cruz and Cruz, 2019), as

evidenced by the higher proportion of spouses who completed college and the lower proportion without formal schooling. The majority (54%) of the spouses have an elementary education, whilst 42% have at least a high school education. There is no disparity in educational attainment across sex and age (Table 3.6).

As in the W1 survey, respondents who were currently in a union were also asked about the work status of their spouses. Nearly two-fifths (39%) of the spouses of surviving older persons are working. More females than males reported that their spouses are working (51% vs 30%), reflecting the higher labour force participation of males in the Philippines. As expected, the likelihood of spouses to be working decreases with age, as shown by the reduced percentage of older persons with working spouses from 46% amongst those under 70 years old to 18% amongst those aged 80 and older.

Table 3.6. Characteristics of Spouse by Sex and Age

Characteristics of Spouse	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Highest educational attainment								
No schooling or preschool	3.5	3.6		3.4	3.6	4.7		3.6
Elementary	51.9	57.6	*ns*	51.0	58.6	59.8	*ns*	54.5
High school	35.7	23.6		31.4	29.4	24.8		30.1
College or higher	8.9	15.2		14.2	8.5	10.8		11.8
N	*901*	*743*		*695*	*721*	*228*		*1,644*
Work status								
Currently working	30.2	50.7	***	46.0	31.7	17.8	**	38.8
Not currently working	69.9	49.3		54.0	68.3	82.2		61.2
N	*841*	*594*		*621*	*629*	*185*		*1,435*

**p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Nearly all surviving older persons have children (95%); on average, they have five children, indicating high fertility within this cohort. However, this figure is one child fewer than that of their generation, which had an average of six siblings, reflecting a trend of decreasing fertility over time. Whilst the number of children is similar for males and females, it varies by age, with those aged 80 and above having more children than those aged 70 and below (Table 3.7). Consistent with the W1 study, childlessness is rare amongst surviving older persons, with less than 1% reporting no children ever born.

A significant proportion of older persons have experienced child mortality; 42% reported losing at least one child to death, with those affected averaging about two deceased children. Additionally, 5% of older persons have adopted children or stepchildren, with an average of two such children per person

still alive. Females are less likely to adopt and have stepchildren, and they tend to have fewer of these children compared to males. Males are more than twice as likely as females to have adopted children or stepchildren (8% vs 3%), with males reporting having three of these children still living compared to one for females. The percentage who has adopted or stepchildren does not differ across age groups.

Table 3.7. Children of Older Persons by Sex and Age

Number of Children	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% of older persons who have children including adopted or stepchildren	94.2	95.2	*ns*	94.4	95.0	95.5	*ns*	94.8
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
Mean children ever born	5.49	5.48	*ns*	5.19	5.42	6.39	***	5.49
Children ever born								
0	1.5	0.5	*ns*	1.1	0.8	0.3	***	0.8
1	4.6	6.6		4.8	8.1	3.4		5.9
2	6.1	8.1		9.0	6.8	4.8		7.3
3	13.4	12.0		17.9	8.1	9.7		12.5
4	15.0	15.1		17.6	15.4	7.9		15.0
5+	59.5	57.7		49.7	60.9	73.9		58.4
N	*1,286*	*2,530*		*1,019*	*1,648*	*1,149*		*3,816*
Mean number of living children	4.87	4.63	*ns*	4.55	4.73	5.11	*	4.72
Number of living children								
0	0.5	0.6	*ns*	0.2	0.9	0.7	*	0.6
1	4.7	8.2		6.3	8.7	4.5		7.0
2	8.6	11.2		12.3	8.9	8.6		10.3
3	14.9	14.9		18.6	11.5	13.8		14.9
4	18.5	19.1		20.3	19.4	14.1		18.8
5+	52.9	46.0		42.4	50.6	58.4		48.5
N	*1,270*	*2,512*		*1,007*	*1,635*	*1,140*		*3,782*
% with at least one dead child	35.6	45.1	*	32.7	42.4	62.3	***	41.7
N	*1,270*	*2,512*		*1,007*	*1,635*	*1,140*		*3,782*
Mean number of dead children (amongst those who experienced child mortality)	1.76	1.90	*ns*	1.98	1.62	2.07	*ns*	1.85
N	*526*	*1,241*		*321*	*713*	*733*		*1,767*

Number of Children	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Number of dead children								
0	64.4	54.9		67.3	57.6	37.7		58.3
1	21.3	24.5		16.7	27.7	29.3		23.4
2	7.7	9.9	*	7.5	8.3	15.2	***	9.1
3	2.7	6.0		4.6	3.2	9.3		4.8
4	2.4	1.9		1.5	1.6	4.8		2.1
5+	1.5	2.8		2.5	1.6	3.6		2.3
N	*1,270*	*2,512*		*1,007*	*1,635*	*1,140*		*3,782*
% who have adopted or stepchildren	8.0	3.0	***	5.5	4.7	3.4	*ns*	4.8
N	*1,286*	*2,530*		*1,019*	*1,648*	*1,149*		*3,816*
Amongst those who have adopted or stepchildren, mean number of living adopted or stepchildren	3.20	1.22	***	2.65	2.31	1.39	*ns*	2.42
N	*92*	*88*		*63*	*77*	*40*		*180*
Amongst those who have adopted or stepchildren, mean number of dead children (among those who experienced child mortality)	2.14	1.00	*ns*	2.92	1.42	1.13	*ns*	1.96
N	*16*	*9*		*4*	*15*	*6*		*25*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Grandparenting is nearly universal, with at least 91% of older persons reporting having at least one grandchild from their own children, stepchildren, or adopted children (Table 3.8). On average, older Filipinos become grandparents at around the age of 50. About 25% are involved in either the partial or full care of their grandchildren. Unlike the W1 survey and the 2007 Philippine Study on Ageing results, which showed a higher proportion of women than men providing grandparental care, W2 shows no significant sex difference in this regard. As expected, involvement in grandchild care decreases with age; however, a notable 11% of those aged 80 and older remain actively involved in caring for their grandchildren.

Table 3.8. Grandchildren of Older Persons by Sex and Age

Information on Grandchildren	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who have any grandchildren from own, step, and adopted children	92.3	90.5	*ns*	89.9	91.6	93.4	*ns*	91.2
N	*1,342*	*2,665*		*1,075*	*1,728*	*1,204*		*4,007*
Mean age when older person first had biological grandchild	51.22	49.27	*ns*	48.29	51.31	54.94	***	49.88
N	*223*	*544*		*334*	*335*	*98*		*767*
% who take care of any of the grandchildren, either fully or partially	21.2	27.0	*ns*	33.7	21.8	10.9	***	24.9
N	*1,199*	*2,432*		*955*	*1,568*	*1,108*		*3,631*
For older person taking care of any grandchild:								
% who live with any grandchild	84.9	85.5	*ns*	90.8	83.1	81.9	*ns*	87.4
% who are solely in charge of taking care of any grandchild	14.7	35.2	***	29.6	28.2	24.6	*ns*	28.7
Reasons for being solely in charge								
Grandchild's parent is working abroad	24.0	15.7	*ns*	23.8	5.8	18.3	*	17.1
Grandchild is orphaned	17.1	9.0	*ns*	12.9	6.3	9.9	*ns*	10.3
Grandchild prefers to live with OP than with own parents	0.7	14.1	***	14.3	8.2	10.9	*ns*	11.9
Mother, father or both parents of grandchild is working outside the town or city but within the Philippines	28.2	20.6	*ns*	14.2	31.0	41.4	*ns*	21.8
Grandchild's parents are separated	19.3	27.2	*ns*	22.9	33.7	11.2	*ns*	25.9
Grandchild's parents are not married	0.8	7.3	*	8.5	3.6	0.0	*ns*	6.2
N	*40*	*182*		*91*	*92*	*39*		*222*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

3. Economic Well-being

3.1. Sources of Funds

Table 3.9 presents the sources of funds of older respondents and their spouses. The most frequently mentioned sources are remittances from children residing in the Philippines (58%), pension (54%), work income (26%), financial support from non-co-resident relatives (19%), and farm income (17%). Following the definitions used in the baseline survey, earnings from work refer to salaries and wages earned in exchange for labour, including being a farm worker for those who do not necessarily own the land they cultivate, whilst farm income refers to earnings from products grown on a farm that the respondent might own but is not currently working on (Cruz, 2019). Additionally, the finding that 17% of older persons receive funds from children living abroad underscores the Philippines' status as a major labour-exporting country and its heavy economic reliance on international remittances (United Nations Women, n.d.).

Table 3.9. Sources of Funds and Median Monthly Income by Sex and Age

Sources of Funds	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Sources of Funds								
Earnings from work	28.9	25.0	*ns*	35.5	23.9	9.6	***	26.4
Pension	50.3	56.7	*ns*	50.8	55.4	60.8	*ns*	54.4
Interest of time deposits, savings, and earnings from stocks	1.9	1.3	*ns*	2.3	0.9	1.2	*ns*	1.5
From property and real estate rentals	4.4	2.5	*	2.4	3.4	4.8	*ns*	3.2
Income from family business	9.0	13.7	***	14.0	12.2	6.6	*	12.0
Income from farm	23.6	13.8	**	17.1	19.1	13.8	***	17.4
Money from children within the country	57.7	58.1	***	57.7	56.3	62.6	*	57.9
Money from children outside the country	19.2	17.2	**	18.8	17.7	16.5	*ns*	18.0
Money from other relatives outside the household	20.3	18.0	*ns*	18.1	18.0	22.5	*ns*	18.8
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Mean number of sources of income	1.19	1.64	***	1.37	1.49	1.71	***	1.02

Sources of Funds	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Median monthly income (in pesos)								
Currently married	5,000	6,000	*ns*	4,000	2,800	2,000	*ns*	5,000
Not currently married	3,000	3,000	*ns*	5,500	5,000	5,000	*ns*	3,000
ALL	4,000	3,000	*ns*	5,000	3,000	2,500	*ns*	3,500
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 7.1 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

Income sources vary by sex and age, with more males receiving funds from farm income and more females receiving funds from family businesses. There is a negative relationship between age and work as a source of funds; as age increases, the proportion of older persons reporting income from work decreases. Although reliance on pensions is highest amongst those aged 80 and older, it is not significantly different from that of younger age groups. The proportion of males and females receiving pensions is not significantly different (50% vs 57%). In the Philippines, pension coverage typically applies to those in the formal employment sector. Private sector employees obtain their pensions from the Social Security System (SSS), whilst public sector workers receive theirs from the Government Service Insurance System (GSIS). As reported in the W1 study, less than 50% of economically active Filipinos participate in a pension plan – 4% with GSIS and 34% with SSS (PSA, 2019). One out of every five older Filipinos receive retirement pensions, with a monthly average of ₱5,123 from SSS and ₱18,525 from GSIS. Despite GSIS pension recipients receiving a high average monthly pension, they make up only 4% of all older persons in the country (PSA, 2019). The minimum SSS pension of ₱1,200 and the GSIS basic pension of ₱5,000 (GSIS Corporate Communications Office, 2016; Social Security System, n.d.) fall below the Philippines' poverty threshold of ₱13,797 (Philippine Statistics Authority, 2023). Pension includes the social pension programme for indigent senior citizens that offers a monthly pension of ₱500, which the government launched in 2010 to address the low retirement pension coverage of the informal sector (Republic Act [RA] 9994, 2010). The monthly social pension for poor older Filipinos as mandated by RA 11916 (2022) was doubled to P1,000 in 2024.

Respondents were asked about their most important source of funds amongst their reported sources of income. On average, older persons typically rely on a single source of funds. However, females and those aged 80 years and older tend to have multiple fund sources. The most important sources of funds are pensions (28%), employment (21%), and financial support from children residing in the Philippines (17%) (Table 3.10). Generally, males rely more on income from work, whereas females rely more on pensions and financial assistance from children living in the country.

Table 3.10. Most Important Source of Funds by Sex and Age

Most Important Sources of Funds	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Earnings from work	26.4	18.2		29.5	17.1	4.3		21.3
Pension	23.6	31.4		22.3	31.7	41.1		28.5
Interest of time deposits, savings, and earnings from stocks	0.0	0.0		0.0	0.0	0.0		0.0
From property and real estate rentals	1.4	1.3		0.8	1.8	1.5		1.3
Income from family business	4.8	7.9	***	8.1	6.0	4.1	**	6.7
Income from farm	15.6	6.4		11.3	8.5	8.8		9.8
Money from children within the country	12.8	19.7		13.5	19.3	23.2		17.1
Money from children outside the country	6.5	11.2		8.9	9.9	10.0		9.4
Money from other relatives outside the household	8.8	4.0		5.6	5.7	6.9		5.8
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

**p < .01, ***p < .001.

Note: Results of the same questions are shown in Table 7.2 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.2. Assets and Liabilities

The LSAHP monitors indicators of material well-being, focusing on ownership of material assets and liabilities. Assets in this context are tangible items that exist physically and can be observed or handled. These assets are categorised as either financial (e.g. cash, bank savings, interest from time deposits, and business investments) or non-financial (e.g. houses, other real estate properties, farms or fishponds, jewellery, appliances, and motor vehicles).

Similar to the W1 survey, older persons were asked if they owned any of the assets in the list provided. Table 3.11 illustrates that the majority (87%) of older persons possess at least one asset, with a higher percentage of males than females owning assets (93% vs 84%). Consistent with the W1 results, the proportion of older persons owning assets decreases as age increases, challenging the conventional notion of accumulating wealth over time (Cruz, 2019). Regarding specific assets, aside from their primary residence (77%), the most commonly owned nonfinancial assets are appliances (40%), other real estate properties (13%), farms or fishponds (12%), and motor vehicles (11%). In general, older Filipinos do not tend to allocate resources to financial assets, which are important for securing financial stability in old age. Only 7% reported having cash, and less than 5% said they have savings in the bank. One out of ten older Filipinos engaged in business ventures.

Males tend to own more tangible assets, including their primary residence and other real estate properties. Ownership of financial assets, such as cash and business investments, as well as nonfinancial assets, such as primary residences and appliances, declines with age. However, ownership of other real estate properties tends to increase with age.

Table 3.11. Assets and Liabilities by Sex and Age

Assets and Liabilities	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% with assets	93.1	84.0	***	91.3	86.2	79.9	**	87.3
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
House currently residing in	83.9	73.2	***	80.3	78.4	65.7	**	77.1
Other real estate	18.2	10.3	**	9.9	15.9	14.8	*	13.2
Cash	5.0	7.5	*ns*	10.6	3.1	5.0	**	6.6
Savings in the bank	3.0	4.3	*ns*	5.7	2.0	3.6	*ns*	3.8
Farm or fishpond	11.8	12.4	*ns*	11.7	13.8	9.6	*ns*	12.2
Business	9.0	9.9	*ns*	12.9	8.5	3.8	**	9.6
Jewellery	4.7	6.3	*ns*	7.5	4.7	3.8	*ns*	5.7
Appliances	38.2	41.5	*ns*	45.6	39.1	29.7	**	40.3
Motor vehicles	14.4	8.7	*ns*	14.5	8.9	6.1	*ns*	10.8
Others (cellphones, etc.)	1.2	0.6	*ns*	1.1	0.8	0.2	*ns*	0.9
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% with liabilities	20.9	16.6	*ns*	27.2	13.7	6.4	***	18.2
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Bank loans	8.5	7.5	*ns*	5.7	10.0	20.2	*ns*	7.9
Personal loans	30.9	29.6	*ns*	31.3	29.3	22.2	*ns*	30.1
Amortisation for housing	1.4	1.2	*ns*	0.6	2.6	2.0	*ns*	1.3
Loans from money lenders (5-6), pawnshops, credit unions, cooperatives	43.4	43.7	*ns*	44.2	41.5	47.9	*ns*	43.6
Loans from SSS, GSIS	8.7	8.1	*ns*	6.3	13.9	2.4	*ns*	8.4
Others (car loan, home credit, etc.)	15.1	17.2	*ns*	17.4	15.5	8.8	*ns*	16.3
N	*229*	*333*		*262*	*238*	*62*		*562*

*p < .05, **p < .01, ***p < .001, ns = not significant.

GSIS = Government Service Insurance System, SSS = Social Security System.

Note: Results on the same questions are shown in Table 7.3 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

Liabilities, which typically represent debts and financial obligations, are the counterpart of assets. Nearly one in five older persons (18%) have liabilities. The percentage of those with liabilities decreases with age, and no significant difference is observed between males and females. More than two in five older persons (44%) have different types of loans from moneylenders (e.g. loan sharks, pawnshops, credit unions, and cooperatives). Other reported liabilities include personal loans (30%), pension loans (8%), and bank loans (8%). The types of liabilities do not vary by sex and age.

3.3. Sufficiency of Household Income

To address the difficulties in collecting objective indicators of economic status, such as income and assets, the LSAHP also gathered subjective measures of financial well-being, such as self-assessed adequacy of household income. Respondents were asked whether the combined household income from all earners was sufficient to cover their daily expenses. This question follows the structure laid out in the W1 survey, with four response categories: (i) there is enough income with money left over, (ii) just enough to pay expenses with no difficulty, (iii) some difficulty in meeting expenses, and (iv) considerable difficulty in meeting expenses (Cruz, 2019).

About a tenth (9%) of older respondents indicated having surplus money after covering expenses, whilst one third stated that their household income allowed them to meet their needs exactly without difficulty (Table 3.12). The majority of the surviving older persons reported facing some level of difficulty (34%) and considerable difficulty (25%) in meeting household expenses. The sufficiency of household income to meet daily needs does not differ across sex and age groups.

Table 3.12. Sufficiency of Household Income by Sex and Age

Sufficiency of Household Income	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Self-assessed economic well-being								
There is enough (income), with money left over	4.9	11.1		8.7	9.0	8.4		8.8
Just enough to pay expenses, with no difficulty	32.0	33.9	*ns*	31.6	33.5	37.9	*ns*	33.1
Some difficulty in meeting expenses	37.9	30.8		34.8	33.8	27.0		33.5
Considerable difficulty in meeting expenses	25.2	24.3		24.9	23.7	26.8		24.6
N	*1,166*	*2,235*		*1,040*	*1,561*	*800*		*3,401*

Sufficiency of Household Income	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Sources of funds to meet income shortfall								
Draw from savings of older person and spouse	0.2	1.0		1.2	0.0	1.0		0.7
Request more money from children	54.9	56.9	*ns*	46.6	66.0	60.5	***	56.1
Sell assets	0.9	0.3		0.4	0.0	3.0		0.5
Borrow from relatives or friends	28.4	22.1		32.7	17.9	15.2		24.6
Borrow from money lenders	3.4	7.0		7.2	4.0	3.7		5.5
Borrow from bank	1.8	1.6	*ns*	2.7	0.8	0.2	***	1.7
Others (e.g. social pension, loans from sari-sari stores, doing sideline work)	10.4	11.2		9.2	11.3	16.4		10.9
N	*677*	*1,291*		*611*	*911*	*446*		*1,968*

***p < .001, ns = not significant.

Note: Results on the same questions are shown in Table 7.4 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

Respondents experiencing varying degrees of difficulty in covering household expenses were asked about their primary source of funds to bridge the income gap. In general, the deficit is addressed through financial assistance from children (56%) and loans obtained from relatives and friends (25%). There is an age-related pattern in borrowing from relatives and friends – as age increases, the proportion who borrow from relatives and friends decreases.

4. Summary, Conclusions, and Recommendations

When we revisited the older persons 4 years after the W1 survey, we expected changes in the characteristics of the surviving older persons due to ageing and mortality. However, certain patterns remained unchanged. There continued to be a higher proportion of older women than men. The older persons also maintained wide social networks spanning multiple generations, including spouses, children, grandchildren, and siblings. A few even had surviving parents, highlighting complex intergenerational relationships. Consistent with the W1 survey, clear gender differences persisted: Older men were more likely to be married, whereas older women were more likely to have outlived their husbands or remain unmarried.

Consistent with the W1 results, most older persons live with at least one of their children. In the Philippine context, this is generally viewed positively as children and grandchildren can offer support and companionship. Yet, as noted in the W1 report by Cruz and Cruz (2019), even well-intentioned family support does not always enhance the well-being of older persons; sometimes it can lead to stress and resentment when the support becomes controlling and intrusive (Shor, Roelfs, and Yogev, 2013; Silverstein, Chen, and Heller, 1996; Thoits, 2011). Some older persons live alone or with only their spouse. The majority of older persons who live alone have children living in the same barangay, a pattern more common amongst older females than males. This proximity makes it easier for children to provide support to their ageing parents when necessary. Thus, the vulnerable include those who live alone without nearby children or relatives.

Another enduring characteristic is that most older persons aged 64 and older continue to experience financial challenges, exacerbated by poor health conditions, as evidenced by both objective and subjective indicators of economic well-being. Apart from their primary asset, which is the house they currently live in, they typically have low income and possess few income-generating assets. Their financial stability is notably low, and they often rely on support from family members, with around one-fifth of older Filipinos having some form of debt or financial obligations. These findings are concerning because both subjective and objective indicators of financial insecurity are negatively linked to self-reported good health, quality of life, and life satisfaction, and are positively associated with self-reported depression (Huang, Ghose, and Tang, 2020).

Children continue to be the primary source of financial support for older Filipinos, especially for older women who consistently rely on their children in the Philippines as their main source of income. Remittances from children overseas also play a significant role in providing funds for older females, highlighting the impact of international migration on the economic stability of older Filipinos. However, pension is considered their most important source of financial support, with more females than males relying on this source. This likely reflects the survivor pension received by females who outlive their male counterparts. In contrast, older males receive funds primarily from employment and farm earnings. Consistent with the W1 results, reliance on employment income decreases with age, whilst dependency on children within the country increases with age. These findings suggest that older Filipinos have not accumulated adequate assets to sustain themselves economically in old age, thereby highlighting their financial instability.

The challenging economic situation faced by the current cohort of older people should prompt policymakers and programme managers to enhance interventions designed to alleviate the financial burdens of older persons. Although still insufficient, the recent increase in the social pension for economically disadvantaged older Filipinos is a positive step forward.

Efforts to enhance the economic well-being of older Filipinos are crucial. Among the strategies being implemented is the integration of a life-course approach into the Philippine Population and Development Plan of Action. This plan, launched in 2023, aims to 'promote inclusive and sustainable well-being and development of all age groups throughout their lives' (Commission on Population and Development, 2023). By adopting this approach, programmes can be developed to educate future generations of older Filipinos on effective preparation for old age, emphasising the importance of achieving financial independence and maintaining good health.

References

Commission on Population and Development (2023), *Philippine Population and Development Plan of Action 2023–2028*. https://cpd.gov.ph/wp-content/uploads/2024/02/PPD-POA-REPORT.pdf

Cruz, C.J.P. (2019), 'Economic Well-being', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta and Quezon City: Economic Research Institute for ASEAN and East Asia and Demographic Research and Development Foundation.

Cruz, C.J.P. and G.T. Cruz (2019), 'Filipino Older Persons', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta and Quezon City: Economic Research Institute for ASEAN and East Asia and Demographic Research and Development Foundation.

Cruz, G.T., J.N. Natividad, M.L. Gonzales, and Y. Saito (2016), *Aging in the Philippines: Findings from the 2007 Philippine Study on Aging.* Quezon City: UPPI and DRDF.

Department of Social Welfare and Development (2021), *Pantawid Pamilyang Pilipino Program (4Ps) Operations Manual.* https://pantawid.dswd.gov.ph/wp-content/uploads/2022/08/08152022_4ps_OM_print.pdf

Government Service Insurance System Corporate Communications Office (GSIS) (2016), *Reforms in the GSIS*. https://www.gsis.gov.ph/downloads/20160201-GSIS_Reforms.pdf?csrt=7168052740533242649#4

Huang, R., B. Ghose, and S. Tang (2020), 'Effect of Financial Stress on Self-reported Health and Quality of Life Among Older Adults in Five Developing Countries: A Cross-sectional Analysis of WHO-SAGE Survey,' *BMC Geriatrics*, 20, pp.1–12. https://doi.org/10.1186/s12877-020-01687-5

The Philippine Constitution (1987), https://www.officialgazette.gov.ph/constitutions/1987-constitution/

Philippine Statistics Authority (PSA) (2019), 'Decent Work in the Philippines: Statistics on Social Security', *Labstat Updates*, 23(1). https://psa.gov.ph/system/files/lsredsd/Labstat%2520Updates%2520Vol%252023%2520No%25201%2520Decent%2520Work%2520Social%2520Security_0.pdf

Philippine Statistics Authority (PSA) (2022), Household Population, Number of Households, and Average Household Size of the Philippines (2020 Census of Population and Housing), *PSA Press Release* [Reference No. 2022-111]. https://psa.gov.ph/content/household-population-number-households-and-average-household-size-philippines-2020-census

Philippine Statistics Authority (PSA) (2023), 'Preliminary 2023 First Semester Official Poverty Statistics', *PSA Press Release* [Reference No. 2023-391]. https://psa.gov.ph/statistics/poverty/node/1684061846

Republic Act No. 9994 (2010), *Expanded Senior Citizens Act of 2010.* https://www.officialgazette.gov.ph/2010/02/15/republic-act-no-9994/

Republic Act No. 11916 (2022), *An Act Increasing the Social Pension of Indigent Senior Citizens and Appropriating Funds Therefor, Amending for the Purpose Republic Act No. 7432.* https://legacy.senate.gov.ph/republic_acts/ra%2011916.pdf

Reyes, S.L. (2020), 'Feminization of Aging', in R.P. Ofreneo and J.I. Illo (eds.), *Philippine NGO Beijing+25 Report*. Quezon City: UP Center for Women's and Gender Studies. https://drive.google.com/file/d/1TbSWMhs9fKFRXQWVmF7Y2xd50W6urWJ0/view?usp=sharing

Sánchez-Moreno, E., L. Gallardo-Peralta, A. Barrón López de Roda, and J.M. Rivera Álvarez (2024), 'Socio-economic Status, Loneliness, and Depression among Older Adults: A Cross-sectional Study in Spain', *BMC Geriatrics,* 24, p. 361. https://doi.org/10.1186/s12877-024-04978-3

Shor, E., D.J. Roelfs, and T. Yogev (2013)', 'The Strength of Family Ties: A Meta-analysis and Meta-regression of Self-reported Social Support and Mortality', *Social Networks*, 35, pp.626–38. https://doi.org/10.1016/j.socnet.2013.08.004

Silverstein, M., X. Chen, and K. Heller (1996), 'Too Much of a Good Thing? Intergenerational Social Support and the Psychological Well-being of Older Parents', *Journal of Marriage and the Family*, 58, pp.970–82. https://doi.org/10.2307/353984

Social Security System (n.d.), Summary of SSS Benefits. https://www.sss.gov.ph/sss/DownloadContent?fileName=SUMMARY_OF_BENEFITS.pdf

Thoits, P.A. (2011), 'Mechanisms Linking Social Ties and Support to Physical and Mental Health', *Journal of Health and Social Behavior,* 52, pp.145–61. https://doi.org/10.1177/0022146510395592

United Nations Economic Commission for Europe (UNECE) Working Group on Ageing (2020), 'Gender Equality in Ageing Societies', *UNECE Policy Brief on Ageing* No. 23. Geneva: UNECE. https://unece.org/fileadmin/DAM/pau/age/Policy_briefs/ECE_WG-1_34.pdf

United Nations (2017), Integrated Monitoring Guide for Sustainable Development Goal 6 on Water and Sanitation Targets and Global Indicators. https://www.unwater.org/sites/default/files/app/uploads/2017/10/G2_Targets-and-global-indicators_Version-2017-07-14.pdf

United Nations Women (n.d.), Sending Countries: Southeast Asia – Republic of the Philippines. https://asiapacific.unwomen.org/sites/default/files/Field%20Office%20ESEAsia/Docs/Misc/2013/migration_hub/philippines_Policies_Regulations_Governing_Asian%20pdf.pdf

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation (DRDF) (2022), *The Filipino elderly: Findings from the 1996 Philippine Elderly Survey.* https://www.uppi.upd.edu.ph/sites/default/files/pdf/1996-PES-Report.pdf

Chapter 4

Health Status, Healthcare, and Healthcare Utilisation

Grace T. Cruz
Mark Ryan B. Paguirigan

Population ageing presents both an opportunity and a challenge. The improvements in human longevity due to developments in medicine, technology, public health, nutrition, and overall living are also accompanied by a rise in age-associated disabilities. People in old age are more likely to develop chronic diseases, which can lead to physical and cognitive impairments and frailty, concomitantly reducing their quality of life. Managing chronic diseases requires extensive medical care, which places a strain on healthcare systems and economic burdens on communities and families. Increased dependency amongst older adults requires assistance with daily activities; this creates emotional and financial stress, particularly on the family.

Achieving good health is important as we age because healthy ageing is a precondition for active ageing. A healthy older population is essential not only for individual well-being but also for society in general. Longer and healthier lives translate to enhanced well-being, more productive older populations, and reduced burdens on pension and healthcare systems. At the same time, harnessing the benefits of the shift towards an ageing population requires investments in quality healthcare, adaptable workplaces, and community engagement, amongst others. Such investments will result in a virtuous cycle in which older adults who are healthier can enjoy fulfilling lives, contribute to economic and social development, and reduce the financial strains on public systems.

The first step to attaining good health and late-life autonomy is a better understanding of health status, its key determinants, and its underlying mechanisms. This is particularly relevant in the Philippine context, where older people have poor health conditions with significant disparities across sectors of the population.

This chapter, which is the core of the LSAHP Wave 2 (W2) study, will describe a wide range of health and health-related factors that are key to understanding the health status of older Filipinos. In particular, we discuss health status using various dimensions of health, including physical, mental, and functional states, health care utilisation, health-related behaviours, diet, and nutrition.

1. Health Status

The W2 survey collected data on both subjective and objective measures of health which were collected in Wave 1 (W1) to ensure future analyses of health transitions. The following analysis will focus only on the W2 survey results.

1.1. Self-assessed Health

Generally, older persons expressed a modest view of their health, with no significant difference by gender or age. A greater proportion of older Filipinos rated their health as 'average' (46%). The proportion reporting poorer-than-average health is higher than the proportion who perceive their health as either 'very healthy' or 'healthier than average' (Table 4.1).

Table 4.1. Self-assessed Health by Sex and Age

Self-assessed Health	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Current								
Very healthy	8.2	13.4		12.6	9.7	12.8		11.4
Healthier than average	8.7	7.9		8.1	9.9	2.9		8.2
Of average health	49.6	44.5	*ns*	49.9	43.7	42.8	*ns*	46.4
Somewhat unhealthy	25.7	29.8		25.1	29.8	34.8		28.2
Very unhealthy	7.9	4.4		4.3	7.0	6.7		5.7
N	*1,160*	*2,225*		*1,034*	*1,556*	*795*		*3,385*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.2. Diagnosed Illnesses

This poor self-rated health aligns with other health measures, with 73% of older Filipinos reporting having been diagnosed with at least one physical illness, including fractures, with no statistically significant differences by age or sex. The reported prevalence of illnesses is expected to be lower than the true prevalence, as it does not account for individuals who may have an illness but had not yet been diagnosed by a physician at the time of the interview. This is confirmed by earlier findings of a substantial proportion of older persons with unmet health needs (Paguirigan, 2023).

High blood pressure is the most commonly reported illness, with about half (48%) of older Filipinos reporting being diagnosed with hypertension (Table 4.2). Following high blood pressure in prevalence are cataracts (19%); arthritis, neuralgia, or rheumatism (18%); diabetes (13%); renal or urinary tract infection (10%); respiratory illnesses (9%); and angina or myocardial infarction (9%). These illnesses afflict older persons with no discernible variations across age and sex, except for diabetes and arthritis, neuralgia, or rheumatism, which display significant age discrepancies. The latter conditions show a monotonic increase with advancing age, from 13% amongst those less than 70 years old to 24% amongst those in their 80s.

Table 4.2. Diagnosed Illnesses by Sex and Age

Diagnosed Illnesses	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
GROUP 1								
Arthritis, neuralgia, or rheumatism	15.0	19.5	*ns*	13.0	20.4	23.8	***	17.9
Chronic back pain	1.4	1.9	*ns*	1.4	1.7	2.9	*ns*	1.8
Cataracts	15.0	21.7	*	10.4	23.7	30.6	*ns*	19.3
Fractures of the hip, thigh, and pelvis or broken hip	1.3	2.4	*ns*	1.3	1.8	4.1	*ns*	2.0
Other fractures	2.9	2.5	*ns*	1.3	3.9	3.2	*ns*	2.7
At least one of the Group 1 illnesses	29.2	38.3	*	23.3	41.6	48.3	***	35.0
GROUP 2								
High blood pressure	43.2	51.2	*ns*	48.1	48.0	49.4	*ns*	48.3
Angina or myocardial infarction, etc.	7.6	10.3	*	8.9	9.1	10.8	*ns*	9.3
Cerebrovascular disease (e.g. haemorrhage, infarction, and stroke)	7.0	9.0	*ns*	5.5	10.0	11.2	*	8.3
Diabetes	11.5	13.5	*ns*	15.4	10.5	11.6	*	12.8
Respiratory illness (chronic, such as asthma and emphysema)	10.3	8.9	*ns*	7.8	11.0	9.5	*ns*	9.4
Digestive illness (stomach or intestinal)	6.7	3.3	**	4.2	4.7	5.1	*ns*	4.5
Renal or urinary tract ailments or kidney disease	10.2	10.7	*ns*	11.3	9.4	11.2	*ns*	10.5
Osteoporosis	0.0	1.6	***	0.4	1.0	2.5	***	1.0
Tuberculosis	5.9	1.1	***	3.7	2.0	2.8	*ns*	2.8
Ailments of the liver or gall bladder	2.0	2.7	*ns*	3.4	1.4	2.6	*ns*	2.4
Glaucoma	1.6	2.1	*ns*	1.7	2.1	2.1	*ns*	1.9
Cancer	0.6	0.7	*ns*	0.7	0.5	0.9	*ns*	0.7
Slipped disc	0.6	0.4	*ns*	0.1	0.1	1.9	***	0.4
At least one of the Group 2 illnesses	63.7	67.5	*ns*	65.0	65.7	70.0	*ns*	66.1
At least one of any illnesses (excluding dementia)	72.0	73.5	*ns*	69.8	73.4	79.9	*ns*	73.0
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Dementia (only asked of the proxy)	2.7	6.4	*ns*	3.5	3.4	6.8	*ns*	5.4
N	*172*	*419*		*34*	*161*	*396*		*591*

Diagnosed Illnesses	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
At least one of any illnesses (including dementia)	72.2	73.7	*ns*	69.8	73.5	80.6	*ns*	73.1
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Have blood pressure monitor at home	20.0	32.7	**	25.6	31.2	26.3	*ns*	28.0
N	*1,218*	*2,399*		*1,054*	*1,624*	*939*		*3,617*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Despite the high prevalence of high blood pressure amongst older Filipinos, only 28% of them have a blood pressure monitor at home. This level is significantly higher amongst females than males (33% vs 20%).

We also inquired about the level of physician-diagnosed dementia, with the question limited to proxy respondents of older persons. Proxy interviews were allowed for respondents who either did not pass the cognitive test or were unable to respond due to various health and health-related conditions, such as hospitalisation, illness, incapacity, difficulty hearing, difficulty speaking, or a psychological disorder. Results indicate that 5% of this subgroup of older persons have been diagnosed with dementia, with no significant sex or age differences but a higher prevalence amongst the oldest age group relative to their young counterparts.

1.3. Experience of Heart Attack

Heart disease is the top killer disease for both men and women in the Philippines (Lusica and Jimeno, 2023; UPPI and DRDF, 2021). As such, it is important to monitor the prevalence of this illness, particularly amongst older adults who are likely to exhibit higher levels of association. Results show that at least 5% of older Filipinos have experienced a heart attack, with no significant variation observed across sex and age. Heart attacks occurred at an average age of 58 years (Table 4.3). The majority of those who have experienced heart attacks do not take any medication for their condition. Only 42% are currently taking medicines for their heart condition, with those in the youngest age group (<70) exhibiting the highest level at 61%. Further analysis is needed to understand why individuals aged 70–79 exhibited the lowest level.

Table 4.3. Experience of Heart Attack by Sex and Age

Heart Attack	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Ever had a heart attack	7.2	3.4	*ns*	4.4	5.8	3.2	*ns*	4.8
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Mean age experienced heart attack	58.98	55.88	*ns*	57.37	56.82	61.62	*ns*	57.58
N	*59*	*101*		*48*	*74*	*38*		*160*
Currently taking medicine for heart condition	28.0	58.8	*ns*	60.9	24.0	54.5	*	41.9
N	*59*	*101*		*48*	*74*	*38*		*160*

*p < .05, ns = not significant.

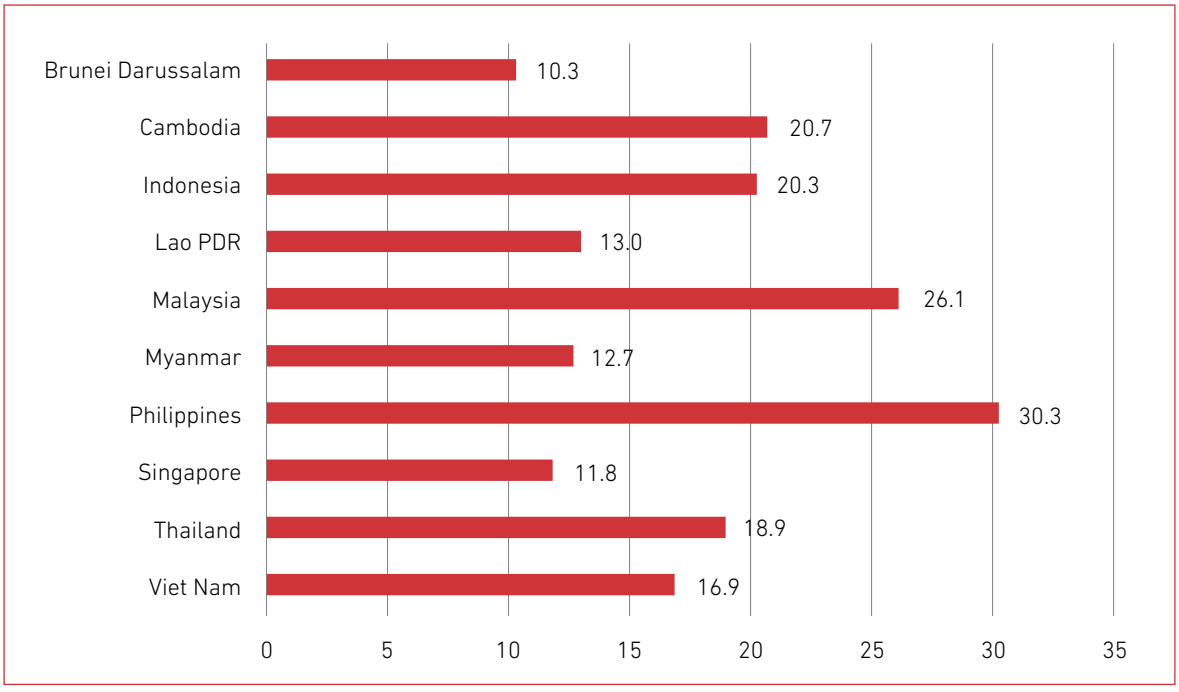
Source: Calculated by the DRDF using LSAHP W2 data.

1.4. Oral Health

Oral health is an important aspect of overall health and well-being amongst older people. As individuals age, they are more prone to losing some or all their natural teeth. Tooth loss can impact an individual's ability to chew food effectively, affect speech, and potentially result in nutritional deficiencies. Dentures play a vital role in maintaining proper oral health by preventing the remaining natural teeth from shifting out of position.

Filipino older adults exhibit poorer oral health compared to their Association of Southeast Asian Nations (ASEAN) counterparts. An intercountry comparison of the level of edentulism amongst the population aged 60 years and over shows that the Philippines has the highest rate, with 30% of its older adults toothless as of 2021. In contrast, Brunei Darussalam has the lowest rate amongst ASEAN countries, with just 10% of its older adult population experiencing edentulism (Figure 4.1).

Figure 4.1. Prevalence of Edentulism (%), ASEAN, 2021



Note. The prevalence rate was calculated by dividing the number of cases by the total population aged 60 and over.

Source: Graph generated by the DRDF using the Global Burden of Disease Study 2021 results (Global Burden of Disease Collaborative Network, 2021).

Evidence from the W2 survey validates the poor health status of older people. Table 4.4 shows that older persons have an average of eight remaining teeth, with the males having significantly more remaining teeth than the females (11 vs 7, respectively).

Approximately 32% of older Filipinos are edentulous, a rate nearly identical to that of the Global Burden of Disease Study presented in Figure 4.1. Tooth loss is more prevalent amongst females than males, with 38% and 20%, respectively, having no teeth. Age exacerbates tooth loss, as evidenced by a significant decline in the average number of teeth with advancing age. Those in their 80s have an average of 5 remaining teeth, compared to 10 amongst those in their 60s.

Table 4.4. Oral Health by Sex and Age

Oral Health	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Mean number of original teeth	10.46	6.51	***	9.58	7.57	4.59	***	7.94
N	*1,314*	*2,591*		*1,064*	*1,693*	*1,148*		*3,905*
% with no teeth	20.1	38.4	***	21.1	35.3	51.1	**	31.8
N	*1,314*	*2,591*		*1,064*	*1,693*	*1,148*		*3,905*
Mean number of functioning teeth	3.34	1.74	***	2.80	2.25	1.24	***	2.32
N	*1,313*	*2,588*		*1,064*	*1,690*	*1,147*		*3,901*
% who have dentures	21.2	45.1	***	37.1	34.2	39.9	*ns*	36.4
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
% who use dentures when they eat	85.8	88.5	*ns*	92.3	85.3	83.0	*ns*	87.9
N	*245*	*1,015*		*332*	*539*	*389*		*1,260*
% who are satisfied with their dentures	69.7	80.1	*ns*	78.8	77.1	77.1	*ns*	77.9
N	*245*	*1,015*		*332*	*539*	*389*		*1,260*

**p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Oral health was further assessed by examining the number of functioning teeth. Functioning teeth refers to pairs of upper and lower teeth that respondents use for biting and chewing food, regardless of their condition. When asked about the number of pairs of upper and lower teeth they possess, older persons reported an average of 2.

Dentures are a common dental solution for older persons who have lost some or all of their natural teeth. Despite the high prevalence of tooth loss, only 36% of older persons have dentures, with the prevalence amongst females more than double that of males (45% vs 21%). Amongst those with dentures, 9 out of 10 use their dentures when eating. However, there is also some level of dissatisfaction with their dentures, as only 78% of users reported being satisfied, with no apparent differences across sex and age.

1.5. Sleep

Sleep is a common concern for many older adults. Changes in sleep patterns are commonly observed in old age, and older adults develop sleep disorders such as restlessness, trouble falling asleep, trouble waking up during the night, difficulty falling asleep, interrupted sleep, and frequent awakenings. Sleep problems necessitate an assessment as they are linked to poor physical and mental health and, when untreated, can lead to a diminished quality of life.

Older persons reported an average of 6 hours of sleep per night, with no significant differences by sex and age (Table 4.5). Four in five (80%) older persons are satisfied with their sleep. Two in five (42%) take naps regularly for an average of almost an hour. Both the proportion of individuals taking naps and the average nap duration significantly increase with age. For instance, 35% of the youngest cohort take regular naps, with the proportion significantly increasing to 60% amongst those in the oldest cohort. The duration of naps likewise increases from an average of 44 minutes amongst the youngest cohort to 68 minutes for the oldest cohort.

Table 4.5. Sleeping Habits by Sex and Age

Sleeping Habits	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Mean number of hours of sleep per night	6.21	6.31	*ns*	6.19	6.36	6.30	*ns*	6.27
N	*1,162*	*2,239*		*1,038*	*1,561*	*802*		*3,401*
% who are satisfied with their sleep	81.6	79.3	*ns*	78.1	81.7	82.8	*ns*	80.2
N	*1,151*	*2,195*		*1,027*	*1,540*	*779*		*3,346*
Have trouble falling asleep								
Most of the time	19.0	23.6	*ns*	23.3	20.0	23.1	*ns*	21.9
Sometimes	28.8	27.5		27.3	28.6	28.6		28.0
Rarely	*28.2*	*28.3*		*25.9*	*30.0*	*31.4*		*28.3*
Never	24.0	20.6		23.6	21.5	16.9		21.9
N	*1,171*	*2,244*		*1,041*	*1,568*	*806*		*3,415*
Have trouble with waking up during the night								
Most of the time	14.5	19.1	*ns*	17.6	15.6	22.6	*ns*	17.4
Sometimes	26.9	30.8		33.5	25.4	27.1		29.3
Rarely	33.9	28.5		30.3	31.5	28.1		30.5
Never	24.8	21.5		18.6	27.5	22.2		22.8
N	*1,169*	*2,246*		*1,041*	*1,566*	*808*		*3,415*

Sleeping Habits	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Have trouble with waking up too early and not being able to fall asleep again								
Most of the time	28.0	31.0		29.0	29.5	34.4		29.9
Sometimes	32.4	28.8	*ns*	28.6	31.6	31.3	*ns*	30.2
Rarely	22.0	26.2		23.7	25.4	25.2		24.6
Never	17.6	14.0		18.6	13.5	9.1		15.3
N	*1,170*	*2,245*		*1,041*	*1,567*	*807*		*3,415*
Feels really rested when waking up in the morning								
Most of the time	46.0	47.0		42.7	50.7	47.5		46.6
Sometimes	29.4	34.4	*ns*	36.5	28.0	32.9	*ns*	32.5
Rarely	20.4	15.2		17.1	17.1	17.4		17.1
Never	4.2	3.4		3.7	4.2	2.2		3.7
N	*1,168*	*2,243*		*1,041*	*1,565*	*805*		*3,411*
Goes to bed and gets out of bed at about the same times (within one hour) every day								
Most of the time	28.0	37.9		30.6	37.0	37.9		34.2
Sometimes	30.7	30.8	*ns*	31.2	30.3	30.9	*ns*	30.8
Rarely	25.6	21.9		27.4	19.7	20.3		23.3
Never	15.8	9.4		10.8	13.0	10.9		11.8
N	*1,168*	*2,242*		*1,038*	*1,566*	*806*		*3,410*
Stays awake all day without dozing off (either intentionally or unintentionally)								
Most of the time	14.9	17.9		16.4	16.9	17.7		16.8
Sometimes	34.1	34.1	*ns*	34.3	34.2	33.0	*ns*	34.1
Rarely	27.6	27.4		25.6	28.9	29.7		27.5
Never	23.5	20.6		23.7	20.0	19.6		21.7
N	*1,171*	*2,247*		*1,041*	*1,569*	*808*		*3,418*
Usually asleep between 2:00 AM and 4:00 AM								
Most of the time	42.3	40.8		41.1	41.9	40.8		41.4
Sometimes	25.7	31.3	*ns*	29.0	29.6	28.6	*ns*	29.2
Rarely	20.6	20.1		19.9	20.3	21.4		20.3
Never	11.4	7.9		10.0	8.2	9.3		9.2
N	*1,171*	*2,246*		*1,041*	*1,569*	*807*		*3,417*

Sleeping Habits	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Spends less than 30 minutes awake in bed when they sleep at night (including the time it takes to sleep and wake from sleep)								
Most of the time	33.1	41.8		43.7	32.0	41.6		38.5
Sometimes	37.0	30.6	*	31.6	35.5	29.7	ns	33.0
Rarely	21.4	16.0		15.5	20.9	17.8		18.1
Never	8.5	11.7		9.2	11.7	10.9		10.5
N	*1,169*	*2,246*		*1,041*	*1,566*	*808*		*3,415*
% who have taken any medications or used other treatments to help induce sleep in the past 2 weeks	2.6	4.6	*ns*	2.8	4.8	4.5	*ns*	3.9
N	*1,343*	*2,666*		*1,075*	*1,731*	*1,203*		*4,009*
% who take naps regularly	44.2	41.0	*ns*	35.0	42.5	59.6	***	42.2
N	*1,340*	*2,665*		*1,075*	*1,728*	*1,202*		*4,005*
Mean duration of naps (in minutes)	53.89	50.09	*ns*	44.01	51.69	67.99	***	51.48
N	*1,143*	*2,228*		*867*	*1,441*	*1,063*		*3,371*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

One in five older persons (22%) has trouble falling asleep most of the time. Seventeen percent have trouble with waking up during the night most of the time. Almost a third (30%) consistently have trouble with waking up too early and not being able to fall asleep again. However, a significant proportion (47%) reported feeling rested when waking up in the morning most of the time.

In the LSAHP W2, three additional sleep questions were added. These questions are necessary for creating a sleep health composite based on the SATED model (sleep satisfaction, daytime alertness, sleep timing, sleep effectiveness, and sleep duration) as proposed by Buysse (2014). Some of the questions related to this were already used in W1. Current research has shifted the focus from solely examining sleep-related problems to considering sleep as a health indicator. The creation of such a composite, which considers both sleep quality and sleep quantity, will provide a broader perspective on sleep. However, for the purpose of this report, individual sleep characteristics will be described, and the composite index will be reserved for future studies.

Data show that 17% of older persons consistently stay awake all day without dozing off (either intentionally or unintentionally). Two in five (41%) older persons are usually asleep between 2:00 am and 4:00 am most of the time. Furthermore, 38% spend less than 30 minutes awake in bed when they sleep at night (including the time it takes to sleep and wake from sleep) most of the time. No apparent sex or age gradients were observed for these measures.

1.6. Pain

Pain is a common experience amongst older adults, and its prevalence and severity tend to increase with age. As people age, they are more likely to develop more chronic conditions and degenerative changes that may result in worsening pain. Persistent or recurrent pain can significantly impact the daily lives of older persons, thus affecting their overall well-being.

A third (33%) of older persons said they are often troubled with pain, with no statistically significant difference observed across sex and age (Table 4.6). Amongst those experiencing pain, the majority described it as moderate (58%), whilst 9% and 33% reported severe and mild pain, respectively. Pain is mostly experienced in the following body parts: knees (56%), lower back (34%), hip joint (27%), feet (26%), shoulders (25%), and ankles (18%). The extent to which the experience of pain affects the well-being of older persons is most evident in the significant proportion of older persons (53%) who claimed that the pain makes it difficult for them to do their usual activities such as household chores or work.

Table 4.6. Experience of Pain by Sex and Age

Pain Experience	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who are often troubled with pain	33.2	33.5	*ns*	33.5	32.9	34.3	*ns*	33.4
N	*1,170*	*2,248*		*1,040*	*1,570*	*808*		*3,418*
Severity of pain experienced								
Mild	29.4	35.7		35.9	30.7	33.2		33.4
Moderate	*59.1*	*56.9*	*ns*	*54.1*	*63.6*	*51.9*	*ns*	*57.7*
Severe	11.5	7.3		10.0	5.8	14.9		8.9
N	*382*	*755*		*305*	*530*	*302*		*1,137*
% who said pain makes it difficult for them to do their usual activities	62.9	46.7	*	46.5	57.7	59.2	*ns*	52.7
N	*383*	*754*		*307*	*531*	*299*		*1,137*
Body parts that felt pain								
Head	12.5	13.1	*ns*	11.2	16.3	7.6	*ns*	12.9
Neck	9.5	5.3	*ns*	6.6	7.0	7.3	*ns*	6.8
Shoulders	24.1	25.8	*ns*	23.9	28.6	18.5	*ns*	25.2
Back	20.3	20.0	*ns*	19.4	19.6	24.1	*ns*	20.1
Lower back	32.1	34.6	*ns*	30.1	35.9	39.2	*ns*	33.6
Joints of the hands or arms	13.8	15.5	*ns*	19.9	8.1	18.5	*ns*	14.9
Hip joint	23.1	29.7	*ns*	30.7	23.5	26.8	*ns*	27.2
Knees	54.4	57.1	*ns*	51.0	59.4	64.1	*ns*	56.1
Ankles	21.9	15.3	*ns*	14.4	20.2	22.1	*ns*	17.8

Pain Experience	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Feet	32.9	21.2	*ns*	19.6	29.1	36.1	*ns*	25.5
Others (e.g. knees, ankles, and feet)	7.4	3.1	**	5.8	3.3	5.4	*ns*	4.7
N	*383*	*757*		*307*	*531*	*302*		*1,140*

*p < .05, **p < .01, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.7. Falls

Older persons have a higher risk of falling than younger individuals due to various factors, including age-related changes in balance, coordination, muscle strength, vision, and reaction time. Environmental hazards such as slippery floors, uneven surfaces, loose rugs, and a lack of handrails or grab bars can also contribute to falls amongst older persons.

About a quarter (24%) of older persons experienced a fall in the year before the interview (Table 4.7). Those who experienced a fall recorded almost two falls on average, and 15% of those who fell were seriously injured enough to need medical treatment. The experience of falls does not vary significantly across age and sex.

Table 4.7. History of Falls by Sex and Age

History of Falls	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who fell in the past 12 months	19.8	25.8	*ns*	24.3	21.4	27.2	*ns*	23.6
N	*1,342*	*2,665*		*1,075*	*1,729*	*1,203*		*4,007*
Mean number of times had fallen in the past 12 months	2.10	1.70	*ns*	1.80	1.70	1.90	*ns*	1.80
N	*238*	*624*		*205*	*373*	*284*		*862*
% who injured self seriously enough to need medical treatment	12.6	16.0	*ns*	10.1	15.6	24.5	*ns*	14.9
N	*240*	*626*		*206*	*375*	*285*		*866*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.8. Incontinence

Most older persons (82%) do not have any problem with incontinence. For those who do, 12% have bladder control problems only, 2% have bowel movement control problems, and 4% have both bladder and bowel problems. The condition varies significantly across categories, with females exhibiting higher rates than males and those in the oldest age group expectedly showing the highest prevalence. For example, 1% of those in the youngest cohort have both bladder and bowel control problems as compared to 14% of those in the oldest cohort. Over 88% of the males have no problem, which is 10 percentage points higher than the females. Amongst those who experience incontinence, 30% experience this either often or very often, with no difference across age and sex (Table 4.8).

Table 4.8. Incontinence by Sex and Age

Incontinence	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Loss of bladder or bowel movement								
Both bladder and bowel movement control	2.3	5.2		1.4	3.2	13.5		4.1
Bladder control only	*7.5*	*13.9*	***	*9.3*	*12.8*	*14.7*	***	*11.6*
Bowel movement control only	*1.9*	*2.5*		*1.9*	*1.9*	*4.4*		*2.3*
No loss of control	88.3	78.4		87.5	82.1	67.4		82.0
N	*1,324*	*2,633*		*1,063*	*1,708*	*1,186*		*3,957*
Frequency								
Very often	12.9	12.4		8.7	12.8	16.0		12.5
Often	*14.2*	*18.4*		*13.7*	*15.6*	*23.5*		*17.4*
Sometimes	*38.3*	*35.6*	*ns*	*37.1*	*34.4*	*37.9*	*ns*	*36.2*
Seldom	*26.4*	*25.4*		*28.2*	*29.2*	*18.3*		*25.6*
Very seldom	8.3	8.2		12.4	7.9	4.4		8.2
N	*194*	*662*		*131*	*327*	*398*		*856*

***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.9. Depression

The Centre for Epidemiologic Studies Depression (CES-D) scale, consisting of 20 items, is a widely recognised tool for assessing depressive symptoms (Radloff, 1977). The short-form 11-item version of the CES-D was used in the LSAHP survey because it alleviates respondent burden and reduces the likelihood of false positives (Gellis, 2010; Kohout et al., 1993). However, it has not undergone a formal

validation process in the Philippines. Findings using the LSAHP baseline data support the use of the CES-D scale as a multidimensional instrument for assessing depressive symptoms in older Filipinos. Depression chiefly manifests as somatic in older men and affective in older women (Afable, 2021).

The 11-item CES-D scale from the LSAHP W2 provides some insights into the mental health status of older Filipinos, offering a better understanding of their psychological well-being. On average, older persons in this study scored 5 on the CES-D scale, with no significant disparity in the mean scores across sex and age (Table 4.9).

Table 4.9. Mean Depressive Scores (CES-D Scale) of Older Persons by Sex and Age

CES-D	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Mean depression score	4.84	4.89	*ns*	5.00	4.65	5.18	*ns*	4.87
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.10. World Health Organization-Five Well-Being Index

Similar to health, there is a growing interest in measuring the well-being of older people as a measure of quality of life. The WHO-Five Well-Being Index, commonly known as the WHO-5, is a comprehensive and flexible measure of the general well-being of a population. It consists of five straightforward questions designed to assess the respondents' subjective well-being. Previous studies have demonstrated its validity as a screening instrument for depression, and it has been utilised across various fields of research (Topp et al., 2015). Since its conception in 1998, WHO-5 has become one of the most widely used scales of well-being. It is an assessment tool validated as a useful instrument for identifying older persons with depression (Heun et al., 2001; Sibai et al., 2009).

The collection of WHO-5 data in the LSAHP W2 survey provides important additional data that will be useful in coming up with additional indicators to better evaluate the mental health status of older Filipinos.

Results show a positive picture across all indicators, with over 7 in 10 older Filipinos agreeing that the following statements applied to them at least more than half of the time in the 2 weeks preceding the survey: 'I felt cheerful and in good spirits', 'I felt calm and relaxed', 'I felt active and vigorous', 'I woke up feeling fresh and rested', and 'My daily life has been filled with things that interest me'. A tiny percentage (<2%) reported not experiencing these feelings at all. The patterns do not show any significant difference by age and sex (Table 4.10).

Table 4.10. World Health Organization-Five Well-Being Index by Sex and Age

% Who Said the Following Statements Applied to Them over the Last 2 Weeks	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Felt cheerful and in good spirits								
At no time	1.3	0.8		1.2	0.8	0.6		1.0
Some of the time	19.1	15.0		15.6	17.0	18.6		16.5
Less than half the time	9.7	8.4		8.3	9.6	8.4		8.9
More than half the time	20.8	20.2	*ns*	20.7	20.1	20.7	*ns*	20.4
Most of the time	36.1	38.3		37.4	39.0	32.7		*37.5*
All of the time	13.0	17.3		16.8	13.5	19.1		15.7
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Felt calm and relaxed								
At no time	1.9	0.6		1.5	0.7	0.8		1.1
Some of the time	19.8	17.6		19.3	17.1	19.9		18.4
Less than half the time	9.6	10.0		10.3	9.7	8.7		9.9
More than half the time	18.1	20.3	*ns*	17.3	21.8	19.7	*ns*	19.5
Most of the time	36.0	36.5		38.3	34.7	34.1		36.3
All of the time	14.6	15.1		13.3	16.1	16.8		14.9
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Felt active and vigorous								
At no time	2.3	0.8		1.2	1.7	1.0		1.4
Some of the time	15.4	15.1		16.4	13.1	18.3		15.2
Less than half the time	11.1	11.8		8.0	14.7	13.9		11.5
More than half the time	17.8	17.4	*ns*	17.7	16.7	19.9	*ns*	17.6
Most of the time	39.3	40.3		43.1	38.7	32.4		39.9
All of the time	14.1	14.6		13.6	15.1	14.6		14.4
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Woke up feeling fresh and rested								
At no time	0.2	0.5		0.3	0.5	0.7		0.4
Some of the time	17.5	15.9		15.5	17.4	17.3		16.5
Less than half the time	8.4	11.3		12.1	8.5	9.1		10.2
More than half the time	17.7	19.3	*ns*	17.4	20.3	18.2	*ns*	18.7
Most of the time	38.9	37.5		40.3	35.5	38.1		38.0
All of the time	17.3	15.6		14.5	18.0	16.6		16.2
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

% Who Said the Following Statements Applied to Them over the Last 2 Weeks	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Felt that their daily life has been filled with things that interest them								
At no time	1.9	1.6		2.4	1.2	0.7		1.7
Some of the time	20.7	12.1		14.7	15.6	16.5		15.3
Less than half the time	8.3	10.4		8.7	10.3	10.7		9.6
More than half the time	17.5	18.2	*ns*	16.2	19.5	19.3	*ns*	18.0
Most of the time	39.0	41.7		43.3	39.7	34.1		40.7
All of the time	12.6	16.1		14.8	13.7	18.6		14.8
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.11. Smoking

The W2 survey inquired about the risky health behaviours of older persons, specifically smoking and drinking. Results indicate that 15% of surviving older persons are current smokers, with clear sex and age differentiations (Table 4.11). A higher proportion of males than females are current smokers (29% vs 8%). The proportion of current smokers decreases as age increases. Nearly one in five older persons aged 70 or below (18%) are current smokers compared to 7% of those in their 80s or higher. On average, current smokers consume seven cigarettes per day; cigarette consumption is significantly higher amongst males than females (9 vs 4, respectively). Those in the youngest age group are the heaviest smokers, consuming eight sticks per day compared to nearly four sticks amongst the oldest age group.

Table 4.11. Smoking by Sex and Age

Smoking	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who currently smoke	28.6	7.8	***	18.3	15.8	7.0	*	15.4
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Mean number of cigarettes or cigars smoked per day	8.99	3.82	***	7.90	7.29	3.52	*	7.31
N	*287*	*137*		*155*	*195*	*74*		*424*

*p < .05, ***p < .001.

Note: Results of the same questions are shown in Table 4.10 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.12. Drinking

More than one in five older persons (22%) are currently alcohol drinkers, with a higher prevalence amongst males than females (44% vs 9%). The age pattern in smoking behaviour follows a similar gradient, with younger cohorts more likely to be current alcohol drinkers than their older counterparts. Amongst those who drink, most do so occasionally or a few times a month. About one in five drinks regularly, i.e. daily or a few times a week, with this being reported more frequently by males than females (Table 4.12).

Table 4.12. Drinking by Sex and Age

Drinking	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who are currently alcohol drinkers	43.6	9.1	***	27.5	20.1	10.8	**	21.7
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
On average, frequency of drinking alcohol amongst current alcohol drinkers								
Once a day	4.5	1.6		6.0	1.1	0.9		3.7
A few times a week	19.5	4.1		19.1	9.7	17.1		15.4
Once a week	14.0	11.5	**	12.3	15.0	12.6	*ns*	13.3
A few times a month	17.2	13.9		14.4	17.7	22.8		16.3
Occasional	44.8	69.0		48.3	56.5	46.6		51.2
N	*555*	*298*		*332*	*383*	*138*		*853*

**p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 4.11 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

1.13. Diet and Nutrition

An important addition to the W2 survey is the diet and nutrition of older persons. Two instruments were used to collect data on the eating behaviour of older people: the Rapid Diet Screener and the Mini Nutritional Assessment (MNA). Screening tools like the Diet Screener and MNA are essential to the early identification of and intervention for malnutrition amongst older adults. The Diet Screener captures dietary patterns, whilst the MNA includes dietary intake, weight loss, and basic self-care activities. The Diet Screener distinguishes between a healthful pattern, represented by the consumption of fruits, vegetables, and lean proteins, and a less optimal pattern, characterised by the intake of sweets, processed meats, and salty snacks (Bailey et al., 2009). The Center for Health Promotion and

Disease Prevention of the University of North Carolina at Chapel Hill created the tool, whilst North Carolina Prevention Partners developed the widely cited Starting the Conversation questionnaire (Paxton et al., 2011).

Overall, the results indicate that older adults consume protein sources such as chicken, fish, and beans more frequently. Their intake of less nutritious foods, including soft drinks, fried food, instant noodles, fast food, and sweets, is relatively controlled. However, the frequency of fruit and vegetable consumption is notably lower. Specifically, 42% of older adults consume protein sources such as chicken, fish, or beans three or more times per week, whilst 33% consume them one to two times per week, with no significant difference by age and sex. Fruit consumption is generally less frequent, with 78% consuming fruits less than three times each day. Similarly, vegetable intake is low, with 69% consuming them less than three times each day.

Regarding soft drinks, 72% of older adults drink them less than once a day, whilst 23% consume soft drinks one to two times each day. Fried food is consumed less frequently, with 59% of older adults eating fried food less than once a day. Instant noodles and fast food are infrequently consumed amongst older adults, with 85% and 90%, respectively, eating these foods less than once a week. Desserts and sweets follow a similar pattern, with 84% of older adults indulging in them once or less than once a week (Table 4.13).

The MNA data reveal that the majority (73%) of older people reported no decrease in food intake in the 3 months preceding the interview. However, approximately a quarter still face moderate (25%) to severe (2%) declines in food intake, with no age or sex differences. Whilst 49% of the older adults reported no weight loss, about 19% lost 1–3 kg and another 5% lost more than 3 kg within the 3 months preceding the survey. A notable percentage (26%) of older people are uncertain if they have lost weight, indicating a need for monitoring.

Table 4.13. Diet and Nutrition by Sex and Age

Diet and Nutrition	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
A. Rapid diet screener								
Frequency of eating from a fast-food restaurant, including breakfast, lunch, dinner, or snacks, whether dine in, order out, or delivery (e.g. Jollibee, McDonald's, Angel's Burger, Angel's Pizza, Chowking, and KFC)								
Less than once a week	91.5	88.4		88.1	90.8	90.6		89.5
1 to 3 times a week	8.3	10.6	*ns*	11.2	8.4	8.9	*ns*	9.8
4 or more times a week	0.2	1.0		0.7	0.7	0.5		0.7
N	*1,171*	*2,249*		*1,042*	*1,570*	*808*		*3,420*

Diet and Nutrition	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Frequency of eating fruit each day								
5 or more times each day	2.3	2.5		1.8	3.0	3.1		2.5
3 to 4 times each day	14.0	23.4	*	19.9	18.8	23.7	ns	19.9
Less than 3 times each day	83.7	74.0		78.3	78.1	73.2		77.6
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Frequency of eating vegetables each day								
5 or more times each day	4.6	1.7		3.3	2.2	2.7		2.8
3 to 4 times each day	25.3	29.6	*	29.2	26.4	28.7	ns	28.0
Less than 3 times each day	70.2	68.7		67.5	71.4	68.6		69.3
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Frequency of drinking soft drinks (excluding diet or zero sugar), juices (canned or powdered, 3-in-1 coffee, sweet or milk tea, or other sweetened beverages) each day								
Less than once a day	70.3	72.7		69.4	72.9	77.7		71.8
1 to 2 times each day	23.3	22.4	ns	25.6	21.0	17.6	ns	22.7
3 or more times each day	6.4	4.9		5.0	6.2	4.8		5.5
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Frequency of eating chicken, fish, or beans (e.g. monggo, garbanzos (chickpeas), and pork and beans)								
3 or more times a week	38.1	44.5		41.4	43.2	40.8		42.1
1 to 2 times a week	33.6	32.3	ns	32.1	33.7	32.2	ns	32.8
Less than once a week	28.3	23.2		26.5	23.1	27.0		25.1
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Frequency of eating instant noodles each week								
Less than once a week	79.7	88.1		84.9	85.0	85.3		85.0
1 to 3 times a week	19.4	10.9	*	14.6	13.6	13.6	ns	14.1
4 or more times a week	0.9	1.0		0.5	1.4	1.1		0.9
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*

Diet and Nutrition	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Frequency of eating desserts and other sweets								
Once or less than once a week	90.2	80.7		84.5	83.6	85.5		84.3
2 to 3 times a week	7.6	15.3	*	13.8	11.0	11.8	ns	12.4
4 or more times a week	2.2	4.0		1.7	5.4	2.7		3.3
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Frequency of eating fried foods each day								
Less than once a day	57.7	60.1		58.9	58.3	63.2		59.2
1 to 2 times each day	36.2	36.1	ns	36.0	37.6	31.8	ns	36.2
3 or more times each day	6.1	3.8		5.0	4.1	5.0		4.6
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
B. Mini Nutritional Assessment								
% who experienced a moderate or severe decrease in food intake over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties								
Severe decrease in food intake	2.5	1.7		1.9	2.0	2.0		2.0
Moderate decrease in food intake	27.9	22.9	ns	27.4	21.4	26.0	ns	24.7
No decrease in food intake	69.7	75.5		70.6	76.7	72.0		73.3
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
Weight loss during the last 3 months								
Weight loss greater than 3 kg (6.6 lbs.)	5.1	5.1		4.5	6.5	2.1		5.1
Weight loss between 1 to 3 kg (2.2 and 6.6 lbs.)	23.8	16.6	ns	20.2	19.4	15.3	ns	19.3
No weight loss	48.3	49.9		47.9	48.6	57.3		49.3
Does not know	22.8	28.5		27.5	25.5	25.3		26.4
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

2. Functional Health

This section focuses on functional health, a new paradigm in the definition of health that emphasises an older adult's ability to self-manage and adapt to their environment rather than merely considering the absence or presence of diseases or infirmity. The functional health framework represents a departure from the earlier static and medical definitions of health to a more multidimensional formulation (Huber et al., 2011). This approach integrates biopsychosocial factors, reflecting a more comprehensive understanding of health.

Functional health is assessed in terms of disability, defined as difficulty or limitation in carrying out activities usually expected for the person's status or role in a specific sociocultural context and physical environment (Nagi's Disability Model, 2019). The term 'disability' refers to societal rather than individual functioning. The categories of required roles include self-care, home management, work, and community service. Accordingly, common measures of functional health include self-reported activities of daily living (ADLs) to measure self-care and instrumental activities of daily living (IADL) to measure independent living.

In this section, we describe the functional health status of older persons using five measures of disability: ADLs, IADLs, the Washington Group Short Set on Functioning (WGSS), the Global Activity Limitation Indicator (GALI), and the experience of being bedridden. We also discuss the Nagi measures of physical functioning as a measure of functional loss.

2.1. Activities of Daily Living

Results indicate that one in five older persons (20%) encounter at least one difficulty in performing at least one of the seven ADLs (Table 4.14). On average, older persons with ADL difficulties experience a total of three difficulties, with going outside or leaving the house (15%) and standing up from a bed or chair or sitting down on a chair (11%) identified as the most difficult to perform, especially amongst those in their 80s. There are no significant sex differences in functional ability, but it varies significantly across age categories. The proportion experiencing ADL difficulties increases from 11% amongst the youngest age group to 44% amongst the oldest cohort.

Table 4.14. Activities of Daily Living (ADL) by Sex and Age

% Who Experience Difficulty with the Following Activities	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Take a bath or shower by oneself	6.0	8.5	*ns*	3.0	5.0	25.6	***	7.6
Dress	6.1	7.7	*ns*	3.5	5.0	21.3	***	7.1
Eat	2.2	3.0	*ns*	1.2	1.1	10.3	***	2.7
Stand up from a bed or chair, sit down on a chair	8.7	11.6	*ns*	4.8	9.9	26.6	***	10.6
Walk around the house	7.7	9.5	*ns*	3.6	7.5	25.2	***	8.8
Go outside (leave the house)	11.6	16.9	*ns*	7.4	14.7	35.0	***	15.0
Using the toilet	6.5	7.8	*ns*	3.4	5.2	22.3	***	7.3
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
% who experienced at least one ADL difficulty	16.3	21.4	*ns*	10.7	18.6	44.2	***	19.5
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Mean number of ADLs with difficulty	2.99	3.04	*ns*	2.52	2.61	3.76	**	3.03
N	*267*	*731*		*117*	*359*	*522*		*998*

**p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 5.1 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.2. Instrumental Activities of Daily Living

Compared to difficulty in performing self-care (ADLs), older Filipinos reported greater difficulty in performing home care for independent living (i.e. IADLs). About a third (32%) experience at least one difficulty in the seven IADLs, with significant gender and age disparities. The most prevalent IADL difficulty is taking the bus, jeepney, or any public transport to leave home (22%), followed by leaving home to purchase necessary items or medication (16%) and performing light housework such as dusting and cleaning (11%). Older Filipinos reported difficulties in an average of about three IADLs, with no significant differences by sex.

Females are more likely than males to encounter IADL difficulties (36% vs 24%), particularly in taking care of financial matters and taking public transportation to leave home (Table 4.15). There is a significant age gradient across all seven IADLs, with the proportion with at least one IADL difficulty amongst the oldest cohort almost three times that of the youngest cohort (60% vs 18%).

Table 4.15. Instrumental Activities of Daily Living (IADL) by Sex and Age

% Who Experience Difficulty with the Following Activities	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Prepare own meals	10.4	11.5	*ns*	4.5	10.7	28.6	***	11.1
Leave home to purchase necessary items or medication	12.5	17.4	*ns*	7.7	15.2	36.2	***	15.6
Take care of financial matters such as paying utilities	6.8	11.0	**	4.6	8.0	25.2	***	9.5
Use the telephone	4.8	8.6	*ns*	3.5	7.0	17.0	***	7.2
Dust, clean up, other light housework	9.2	12.7	*ns*	4.7	12.7	25.0	***	11.4
Take bus, jeepney, or public transport to leave home	15.2	26.0	***	12.5	22.3	45.2	***	22.0
Take medication as prescribed	5.4	5.8	*ns*	2.1	4.1	18.3	***	5.7
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
% who experienced at least one IADL difficulty	23.8	36.5	***	18.3	34.4	60.1	***	31.9
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*
Mean number of IADLs with difficulty	2.70	2.54	*ns*	2.18	2.33	3.25	***	2.58
N	*368*	*1,086*		*178*	*592*	*684*		*1,454*

**p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 5.2 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.3. Washington Group Short Set on Functioning

Another measure employed in the LSAHP to estimate functional health difficulties is the Washington Group Short Set on Functioning (WG-SS). The WG-SS consists of six questions on functioning aligned with WHO's International Classification of Functioning, Disability, and Health biopsychosocial model. It locates disability as an interaction between a person's capabilities (limitation in functioning) and environmental barriers (physical, social, cultural, or legislative) that may limit participation in society. This approach marks a departure from the prior medicalisation of disability, which placed disability within the person and characterised it by impairments or deficits in bodily functions (Madans, Loeb, and Altman, 2011).

Results show a clear age gradient in all six WG-SS activities and no significant sex differences. With advancing age, older Filipinos manifest greater difficulty in the various dimensions of functioning, which affects their social participation with their families and communities. Amongst the six activities, remembering or concentrating is the most common difficulty reported, affecting 47% of older people (Table 4.16). An almost similar proportion reported at least some difficulty in walking or climbing steps (45%), with about 3% claiming they could not do this activity at all. Communicating is the least common difficulty reported, affecting less than a tenth of the older population.

Table 4.16. Washington Group Short Set on Functioning (WG-SS) by Sex and Age

WG-SS Difficulty	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Seeing, even if wearing glasses								
No difficulty	64.4	65.7		72.2	64.2	50.2		65.2
Some difficulty	25.8	27.3	*ns*	24.0	27.7	31.4	***	26.7
A lot of difficulty	7.9	5.5		2.4	7.1	14.6		6.4
Cannot do it at all	1.9	1.5		1.4	1.0	3.9		1.7
Hearing, even if using a hearing aid								
No difficulty	75.0	78.3		86.4	76.2	55.8		77.1
Some difficulty	18.6	14.2	*ns*	11.0	17.7	23.4	***	15.8
A lot of difficulty	3.6	5.5		0.4	4.2	17.3		4.8
Cannot do it at all	2.8	2.0		2.2	1.9	3.5		2.3
Walking or climbing steps								
No difficulty	60.8	51.6		65.5	54.4	29.8		54.9
Some difficulty	27.9	34.6	*ns*	29.1	33.2	37.1	***	32.1
A lot of difficulty	8.8	9.9		4.0	10.3	21.5		9.5
Cannot do it at all	2.6	3.9		1.4	2.1	11.6		3.4

WG-SS Difficulty	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Remembering or concentrating								
No difficulty	57.2	51.0		64.0	51.1	31.4		53.2
Some difficulty	37.9	41.7	*ns*	34.5	43.9	46.3	***	40.3
A lot of difficulty	4.2	6.2		1.3	4.4	18.6		5.5
Cannot do it at all	0.7	1.2		0.3	0.6	3.7		1.0
Self-care (washing all over or dressing)								
No difficulty	89.9	87.0		95.5	88.7	67.7		88.0
Some difficulty	5.7	7.4	*ns*	2.9	8.2	13.1	***	6.8
A lot of difficulty	1.7	3.3		0.6	1.7	10.6		2.7
Cannot do it at all	2.7	2.3		1.1	1.4	8.6		2.5
Communicating								
No difficulty	92.5	89.5		96.5	93.0	69.8		90.6
Some difficulty	5.6	6.9	*ns*	3.2	5.3	17.3	***	6.4
A lot of difficulty	1.5	2.8		0.2	1.0	11.0		2.3
Cannot do it at all	0.5	0.8		0.1	0.7	1.9		0.7
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 5.3 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.4. Global Activity Limitation Indicator

The Global Activity Limitation Indicator (GALI) is a global measure of disability, assessing persistent limitations in various activities within the 6 months preceding the survey. The data are collected from the question 'For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been: severely limited? limited but not severely? not limited at all?' GALI was developed within the framework of computing healthy life years to be included in the Eurostat database (Bogaert et al., 2018).

Results show that over half of older Filipinos have experienced limitations in activities they typically engage in because of health problems. Specifically, 15% say they are severely limited, and 39% claim they are limited but not severely (Table 4.17). No significant differences are found between the sexes, but there is an observable age gradient, with those in their 80s being the most limited due to health issues compared to their younger counterparts.

Table 4.17. Global Activity Limitation Indicator (GALI) by Sex and Age

GALI	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Yes, severely limited	12.4	15.9		8.5	14.8	29.7		14.6
Yes, limited but not severely	37.5	39.3	*ns*	35.1	42.1	39.4	***	38.7
Not limited at all	50.1	44.8		56.4	43.2	30.9		46.7
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

***p < .001, ns = not significant.

Note. Results of the same questions are shown in Table 5.4 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.5. Bedridden

Being bedridden is a marker of extreme disability that may be due to medical conditions such as chronic illnesses, severe injuries (particularly fractures), major surgeries, and age-related decline and frailty. Extended periods of immobility can lead to the weakening and shrinking of muscles and can impact mental health, leading to feelings of isolation and depression.

In the LSAHP, older persons were asked if they had been bedridden for any reason within the 2 weeks prior to the survey. Results reveal that 4% of older persons had been bedridden during this period (Table 4.18). A significantly higher proportion of males than females experienced bedridden episodes (7% vs 2%). Amongst those who experienced being bedridden, the average duration of bed rest was almost 7 days.

Table 4.18. Experience of Being Bedridden by Sex and Age

Experience Being Bedridden	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who have been bedridden during the past 2 weeks	7.1	2.4	*	3.0	4.4	6.4	*ns*	4.1
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Mean number of days in bed	5.98	7.63	*ns*	8.19	4.31	8.39	*ns*	6.53
N	*46*	*73*		*26*	*40*	*53*		*119*

*p < .05, ns = not significant.

Note: Results of the same questions are shown in Table 5.5 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

2.6. Nagi Measures of Physical Functioning

Functional loss was measured using the Nagi measures of physical functioning. Data reveal that 65% of older persons have encountered difficulties in performing at least 1 of the 10 activities, with notable disparities based on sex and age (Table 4.19). Significantly more females than males, as well as those in the older cohorts compared to the younger cohorts, reported having experienced difficulties in performing any of the activities. The most common activity that older persons have difficulty performing is lifting an object weighing approximately 10 kg (44%), followed by standing or going without sitting for 2 hours (42%). On average, amongst those with at least one difficulty, older persons face challenges in four activities.

Table 4.19. Nagi Functioning Measures by Sex and Age

Nagi Functioning Measures	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who experience difficulty with the following activities:								
Walk 200 to 300 metres	29.4	39.9	**	25.0	35.6	65.0	***	36.1
Climb 10 steps without resting	34.4	42.5	*	28.8	39.8	66.1	***	39.6
Stand (go without sitting) for 2 hours	36.1	45.3	**	33.5	39.1	70.1	***	41.9
Continue to sit for 2 hours	10.7	15.8	*	9.2	13.1	27.7	***	13.9
Stoop or bend your knees	21.5	31.3	**	19.8	26.9	49.8	***	27.8
Raise your hands above your head	7.8	6.8	*ns*	5.9	5.5	14.5	***	7.2
Extend arms out in front of you as if to shake hands	4.2	4.8	*ns*	4.2	2.6	10.5	***	4.6
Grasp your fingers or move your fingers easily	8.6	8.0	*ns*	5.9	7.9	14.8	**	8.2
Lift an object weighing approximately 10 kg	30.2	52.2	***	29.5	47.9	72.1	***	44.2
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Lift an object weighing approximately 5 kg (amongst those who have difficulty lifting an object weighing approximately 10 kg)	40.3	41.9	*ns*	29.9	34.4	64.7	***	41.5
N	*406*	*1,533*		*289*	*795*	*855*		*1,939*
% who experienced difficulty in performing any of the 10 activities	55.2	70.3	***	51.6	69.0	88.0	***	64.8
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

Nagi Functioning Measures	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Mean number of Nagi activities with difficulty	3.53	3.82	*ns*	3.31	3.40	4.97	***	3.73
N	*775*	*1,964*		*524*	*1,172*	*1,043*		*2,739*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 5.6 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3. Healthcare Utilisation

This section presents key survey results that shed light on various aspects of healthcare utilisation. We explore patterns in inpatient and outpatient utilisation, examine the prevalence of unmet healthcare needs, assess health insurance coverage, and delve into insights regarding long-term care. These results provide a comprehensive overview of how individuals access and use healthcare services, offering valuable insights into the dynamics of healthcare utilisation.

3.1. Inpatient Care Utilisation

In this analysis, we define inpatient utilisation as staying overnight in a hospital or other medical facility in the past year because of an illness or accident. Results show an 8% prevalence of inpatient utilisation, with no disparity across sex and age (Table 4.20). Amongst those who were in inpatient care, the average number of times they sought this service in the past 12 months was 1.4, with 45% of them availing of services from a private hospital. Public health facilities, particularly provincial or city hospitals (23%) and district hospitals (13%), are the other source of inpatient care. Most hospitalisation costs (61%) were covered by the older person's children, with older people and their spouses covering 15% and 7%, respectively. About 82% of older persons availed of PhilHealth benefits as a member, and 8% availed of PhilHealth benefits as a dependent. A mere 1% availed of other medical/health insurance aside from PhilHealth. Almost all older persons (89%) availed of discounts for senior citizens for medical expenses. All indicators of inpatient care utilisation showed no significant disparity by age or sex.

Table 4.20. Inpatient Utilisation by Sex and Age

Inpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who stayed overnight in a hospital or other medical facility in the past year because of an illness/accident in the past 12 months	9.0	7.1	*ns*	7.7	7.0	10.0	*ns*	7.8
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Mean number of times stayed at least overnight in a hospital	1.40	1.49	*ns*	1.45	1.45	1.46	*ns*	1.45
N	*153*	*243*		*94*	*168*	*134*		*396*
Type of facility used the last time hospitalised								
Municipal hospital	12.7	3.3		7.0	5.4	11.1		7.3
District hospital	17.2	10.1		7.7	17.6	15.8		13.1
Provincial or city hospital	18.8	25.6		22.7	26.8	16.0		22.8
Regional hospital	1.5	2.0		0.8	1.1	4.9		1.8
Public or national hospital (e.g. PGH)	5.3	4.5	*ns*	7.6	2.9	2.6	*ns*	4.8
Public specialty hospital	0.0	0.0		0.0	0.0	0.0		0.0
Private clinic	6.8	3.7		6.7	4.2	2.9		5.0
Private hospital	37.7	50.4		47.3	42.1	45.6		45.0
Others	0.0	0.5		0.1	0.0	1.1		0.3
N	*153*	*243*		*94*	*168*	*134*		*396*
Who paid the most for the hospitalisation								
Respondent	16.5	14.5		18.5	17.8	5.0		15.3
Spouse	14.0	2.2		8.2	10.1	0.2		7.2
Children	49.8	68.8		60.1	53.1	75.4		60.8
Grandchildren	0.6	0.9	*ns*	0.0	0.6	2.7	*ns*	0.8
Other relatives	4.3	2.0		2.9	2.8	3.5		3.0
Friends	0.2	0.0		0.2	0.0	0.0		0.1
Others (e.g. pension)	14.6	11.4		10.1	15.5	13.2		12.8
N	*153*	*243*		*94*	*168*	*134*		*396*

Inpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who availed of PhilHealth benefits								
As a member	84.0	80.2	*ns*	82.1	83.7	77.8	*ns*	81.8
As a dependent	7.0	8.0		6.3	7.2	10.7		7.6
N	*153*	*243*		*94*	*168*	*134*		*396*
% who availed of other medical or health insurance aside from PhilHealth	0.0	2.1	*ns*	0.0	0.0	5.5	***	*1.2*
N	*153*	*243*		*94*	*168*	*134*		*396*
Kind of medical or health insurance								
Veterans	0.0	9.8	*ns*	0.0	0.0	15.6	*ns*	4.3
Others (e.g. senior card)	0.2	5.2	*ns*	0.0	0.2	8.3	*ns*	2.4
N	*43*	*61*		*25*	*44*	*35*		*104*
% who availed of discounts for senior citizens for medical expenses	90.6	87.2	*ns*	85.9	93.1	86.3	*ns*	88.6
N	*153*	*243*		*94*	*168*	*134*		*396*

***p < .001, ns = not significant.

PGH = Philippine General Hospital.

Note: Results of the same questions are shown in Table 6.1 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.2. Outpatient Care Utilisation

Older Filipinos reported a higher level of outpatient than inpatient care utilisation. About 36% received medical care for an illness or accident from any medical facility or practitioner without the need for an overnight stay in the past 12 months, with no notable age or gender differences (Table 4.21). Those who availed of outpatient medical care reported an average of 2.1 consultations. Similar to inpatient utilisation, a considerable proportion of older persons (65%) availed of outpatient care at private facilities. The rest went to public health facilities, more commonly barangay health stations (12%), rural health units (7%), or provincial or city hospitals (7%). A nearly universal proportion (95%) sought the service of a doctor for their health problems.

Table 4.21. Outpatient Utilisation by Sex and Age

Outpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who received medical care for an illness or accident from any medical facility or practitioner without staying overnight in the past 12 months	31.8	38.1	*ns*	35.3	38.9	29.8	*ns*	35.8
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Mean number of times received medical care without staying overnight	2.35	2.00	*ns*	2.09	2.16	2.05	*ns*	2.11
N	*403*	*949*		*371*	*622*	*359*		*1,352*
Type of facility visited most as an outpatient								
Barangay health station	6.8	13.7		10.5	12.3	11.9		11.5
Rural health unit	5.5	7.1		8.8	5.1	4.9		6.6
Municipal hospital	4.8	4.3		4.6	3.4	7.2		4.4
District hospital	3.7	2.5		2.7	3.1	2.7		2.9
Provincial or city hospital	6.9	7.7		8.1	6.3	9.0		7.4
Regional hospital	0.7	0.2	*ns*	0.4	0.3	0.4	*ns*	0.4
Public or national hospital	2.4	1.0		0.7	2.1	1.7		1.4
Public specialty hospital	0.1	0.4		0.1	0.6	0.1		0.3
Private clinic	44.6	40.7		43.9	42.3	35.0		41.9
Private hospital	24.6	21.9		20.2	24.1	26.4		22.8
Others (e.g. medical missions)	0.0	0.5		0.0	0.5	0.7		0.3
N	*403*	*949*		*371*	*622*	*359*		*1,352*
Health practitioner seen most often for health problems								
Traditional practitioner	0.0	0.1		0.0	0.1	0.1		0.1
Doctor	96.1	94.9		95.6	95.4	94.1		95.3
Nurse	2.0	2.1	*ns*	1.9	2.6	1.0	*ns*	2.1
Midwife	0.8	1.5		1.7	0.5	2.2		1.2
Barangay health worker	1.0	1.5		0.8	1.4	2.6		1.3
Others	0.0	0.0		0.0	0.0	0.0		0.0
N	*403*	*949*		*371*	*622*	*359*		*1,352*

ns = not significant.

Note: Results of the same questions are shown in Table 6.2 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.3. Unmet Need for Healthcare

One of the most critical measures of access to healthcare services is the subjective measure of unmet healthcare needs. In the LSAHP, this was operationalised as the perception of older individuals who felt unwell and considered consulting a doctor but did not do so in the past 12 months. In the W2 survey, 22% of the respondents reported having unmet healthcare needs (Table 4.22). Similar to the W1 findings, financial constraints were the primary reason for not seeing a doctor (62%) amongst those with unmet healthcare needs.

Table 4.22. Unmet Need for Healthcare by Sex and Age

Unmet Need for Healthcare	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who felt ill and thought about seeing a doctor but did not in the past 12 months	21.5	22.4	*ns*	19.6	25.4	20.1	*ns*	22.1
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% whose most important reason for not seeing a doctor is not having enough money	63.4	61.6	*ns*	65.6	57.9	67.4	*ns*	62.2
N	*242*	*549*		*230*	*357*	*204*		*791*

ns = not significant.

Note: Results of the same questions are shown in Table 6.3 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.4. Health Insurance Coverage

Results show that the majority (63%) of older people are covered by health insurance, almost universally by PhilHealth (Table 4.23). Despite the pervasive PhilHealth coverage, the findings highlight a significant gap in the older population's access to health. The Expanded Senior Citizens Act (RA 10645) provides that all senior citizens aged 60 and above are automatically considered PhilHealth members, even if they did not pay monthly contributions. These non-paying senior citizens also receive free lifetime coverage, just like any lifetime member.

Table 4.23. Health Insurance Coverage by Sex and Age

Health Insurance Coverage	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who have health insurance	60.2	64.7	*ns*	62.4	65.1	59.7	*ns*	63.1
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Type of health insurance								
PhilHealth	99.0	99.3	*ns*	98.9	99.6	98.7	*ns*	99.2
Private health insurance	2.6	3.4	*ns*	2.7	4.0	1.7	*ns*	3.1
Others (e.g. employees' compensation)	1.7	1.5	*ns*	1.9	1.4	1.2	*ns*	1.6
N	*878*	*1,698*		*677*	*1,158*	*741*		*2,576*

ns = not significant.

Note: Results of the same questions are shown in Table 6.4 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.5. Vaccination

To protect older people from infectious or malignant diseases, particularly pneumonia, which is amongst their leading causes of death, the Department of Health (DOH), under its national immunisation programme, provides free pneumococcal and flu vaccines for older persons. Vaccination not only lowers the severity of infection but also reduces hospitalisations and intensive care admissions, thereby lowering overall healthcare costs.

Despite the government vaccination programme, results indicate low awareness and uptake of vaccination amongst older adults. Only half (52%) of older adults are aware of pneumococcal vaccines for their age group, with significantly more females than males being aware (56% vs 45%; Table 4.24). Amongst those who are aware of the pneumococcal vaccine, 55% have been immunised since turning 60 years old.

A similar trend is observed for influenza, with 53% of older Filipinos reporting awareness of the influenza vaccine, and more females than males being aware (57% vs 45%). Amongst those who are aware of the influenza vaccine, almost three in five (57%) have received the vaccine, with more females than males amongst the recipients.

For both vaccines, most older persons received their vaccinations at barangay health stations (82%), which is also where they received their last vaccines.

Table 4.24. Vaccinations by Sex and Age

Vaccinations	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who are aware of pneumococcal vaccine for older persons	44.6	55.7	***	52.6	53.9	44.2	*ns*	51.7
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% who ever had a pneumococcal vaccination since they turned 60 years old	45.3	59.5	*ns*	54.9	53.2	61.1	*ns*	55.1
N	*538*	*1,342*		*567*	*856*	*457*		*1,880*
Place where last pneumococcal vaccine was received								
Barangay health station	87.2	79.9		82.9	81.1	80.8		81.8
Rural health unit	0.8	8.6		6.4	7.3	5.6		6.6
Municipal hospital	2.1	3.5		3.4	3.1	2.4		3.1
District hospital	0.1	0.2		0.0	0.2	0.5		0.2
Provincial or city hospital	4.0	0.3		2.6	0.3	0.1		1.3
Regional hospital	0.0	0.0	***	0.0	0.0	0.0	*ns*	0.0
Public or national hospital	0.0	0.0		0.0	0.0	0.0		0.0
Public specialty hospital	0.0	0.0		0.0	0.0	0.0		0.0
Private clinic	3.2	3.4		3.2	3.2	4.3		3.4
Private hospital	1.8	1.8		0.1	2.9	3.5		1.8
Others (e.g. medical mission and covered court)	0.6	2.2		1.3	1.9	2.9		1.8
N	*249*	*748*		*272*	*460*	*265*		*997*
% who are aware of flu vaccine for older persons	45.2	56.8	***	54.8	53.7	44.3	*ns*	52.6
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% who ever had a flu vaccination since they turned 60 years old	42.8	62.9	**	55.1	56.2	62.6	*ns*	56.6
N	*526*	*1,280*		*564*	*818*	*424*		*1,806*
Place where last flu vaccine was received								
Barangay health station	89.0	79.5		86.8	75.7	84.1		81.8
Rural health unit	6.7	12.3		6.8	17.5	5.3		11.0
Municipal hospital	0.0	2.1	*ns*	1.7	1.8	1.0	*ns*	1.6
District hospital	0.0	0.8		0.0	1.5	0.0		0.6
Provincial or city hospital	1.5	0.2		0.8	0.3	0.2		0.5

Vaccinations	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Regional hospital	0.0	0.0		0.0	0.0	0.0		0.0
Public or national hospital	0.7	0.0		0.4	0.0	0.0		0.2
Private clinic	0.8	1.3	*ns*	0.6	0.9	3.7	*ns*	1.2
Private hospital	0.4	1.4		0.2	1.9	1.6		1.2
Others	0.7	2.3		2.7	0.3	4.1		1.9
N	*223*	*703*		*278*	*417*	*231*		*926*

**p < .01, ***p < .001, ns = not significant.

Note. Results of the same questions are shown in Table 6.5 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.6. Free Medicines for Hypertension and Diabetes

Another government health programme for older persons is the provision of free medicines for prevalent noncommunicable diseases such as hypertension and diabetes. Older adults who reported a diagnosis of either condition were asked if they take medications to manage their condition. Those who do were further asked about consistently obtaining their medicines from a public health facility.

Findings show a significant level of unmet need for treatment of hypertension and diabetes, with 16% and 24% of those diagnosed with these illnesses, respectively, not taking any medication. Whilst the majority of those diagnosed with these diseases are on maintenance medication (84% for hypertension and 76% for diabetes), with no significant age or sex differences, a significant treatment gap is apparent (Table 4.25).

Amongst those taking medication for high blood pressure, 19% reported obtaining their medicine from health centres all the time. The corresponding figure for diabetes is 11%.

Table 4.25. Level of Use and Source of Medicines by Sex and Age

Level of Use and Source of Medicines	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who take any medicine for								
High blood pressure	77.1	87.5	*ns*	84.0	86.5	79.1	*ns*	84.2
N	*578*	*1,451*		*509*	*916*	*604*		*2,029*
Diabetes	73.5	77.6	*ns*	79.7	78.6	59.7	*ns*	76.3
N	*153*	*350*		*165*	*233*	*105*		*503*
% who get medicine from health centre(s) all the time								
High blood pressure	15.3	20.2	*ns*	21.5	15.7	19.6	*ns*	18.8
N	*452*	*1,240*		*429*	*768*	*495*		*1,692*
Diabetes	9.8	11.1	*ns*	10.4	12.5	6.3	*ns*	10.7
N	*104*	*272*		*131*	*174*	*71*		*376*

ns = not significant.

Note: Results of the same questions are shown in Table 6.6 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.7. Informal Care

Results from LSAHP W1 indicate that care for older Filipinos when they get sick (since the age of 60) is generally informal, with care mostly provided by female family members. Like W1, which shows the spouse as the one most commonly in charge of elder care, W2 findings indicate the dominance of the daughters and spouse as the main caregivers of older persons.

The type of caregiver varies significantly by sex and age. The spouse is most commonly cited as the carer for older males when they get sick (61%), whereas daughters assume this role for older females (42%). The proportion of sick older people cared for by their spouse is highest amongst the youngest cohort (42%), with the level significantly decreasing in older cohorts (12%). Conversely, the proportion cared for by daughters and daughters-in-law increases with advancing age.

One important finding is that 13% of older persons reported having no one to care for them when they get sick. Further analysis may be required to determine the situation of this sector as a basis for better policy and programme interventions to alleviate their condition.

Table 4.26. Person Who Usually Takes Care of Older Person When They Are Sick Since Age 60 by Sex and Age

Persons	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
None or self	12.4	12.7		13.1	13.1	10.1		12.6
Spouse	61.0	15.0		41.5	29.7	12.1		31.7
Son	7.4	12.5		9.8	10.3	13.5		10.6
Daughter	14.3	42.3		26.8	31.6	46.8		32.1
Daughter-in-law	0.5	5.6	***	1.5	4.9	6.5	***	3.8
Son-in-law	0.0	0.1		0.1	0.0	0.1		0.1
Grandchild	1.5	6.3		2.6	6.1	6.0		4.6
Other relatives	2.0	3.6		3.2	2.8	3.1		3.1
Others	0.8	1.8		1.3	1.5	1.7		1.4
N	*1,343*	*2,668*		*1,076*	*1,731*	*1,204*		*4,011*

***p < .001.

Note. Results of the same questions are shown in Table 6.7 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

3.8. Long-term Care

Long-term care involves the provision of personal care, assistance, and nursing care services to support older people in the activities that constitute their everyday lives (Llena-Nozal, Rocard, and Sillitti, 2022). It aims to provide a sufficient level of care, specifically to minimise pain and suffering and the deterioration of their health status (Kotschy and Bloom, 2022; Llena-Nozal, Rocard, and Sillitti, 2022).

In the LSAHP, long-term care is defined as nonmedical care provided to individuals who need ongoing assistance with the basic ADL. W2 data reveal that 12% of older persons are now receiving long-term care due to persistent conditions of ill health or disability (Table 4.27). This is higher than the 8% level reported at W1, which is expected given the older age structure of the W2 older respondents. There is no significant difference between males and females, but the proportion of older persons receiving long-term care amongst the oldest age cohort (80+) is five times that of those aged 70 and below (30% vs 6%).

Consistent with the findings for informal care, the results show that daughters and spouses mainly take care of older persons who are long-term care recipients. Significantly more males are cared for by their spouses (63%), whilst older females are primarily cared for by their daughters (61%).

Long-term care requires significant effort, as indicated by the nearly universal proportion of recipients (93%) stating that long-term care is part of their daily routine. The most common type of care provided is food preparation (97%), followed by administering medicine (65%) and assistance with self-care activities such as bathing and washing (51%).

Older persons were asked about hypothetical situations, such as if they were to become demented, invalid, or bedridden. When asked about the person they would prefer to receive care from and the person who would most likely take care of them in such situations, older persons were consistent with their answers, preferring and expecting care from their daughters and spouses.

Table 4.27. Long-term Care by Sex and Age

Long-term Care	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% currently receiving care because of continuing condition of ill health or disability	10.5	12.1	*ns*	6.0	9.5	30.1	***	11.5
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Person mainly taking care of older person								
Spouse	63.3	4.6		62.4	26.4	3.0		24.0
Son	7.1	11.1		6.0	8.6	12.6		9.8
Daughter	13.5	61.3		20.7	48.3	55.8		45.5
Son-in-law	0.1	0.0		0.0	0.1	0.0		0.0
Daughter-in-law	2.4	7.4	***	0.9	5.8	8.1	***	5.7
Grandson	0.8	1.7		0.0	0.2	3.0		1.4
Granddaughter	2.2	7.2		0.1	4.6	9.0		5.6
Househelp	2.1	2.3		2.8	1.6	2.5		2.3
Sibling	5.1	1.7		7.2	2.9	0.7		2.9
Others (e.g. friends and caregiver)	3.3	2.7		0.0	1.5	5.4		2.9
N	*145*	*408*		*55*	*176*	*322*		*553*
Frequency of care given								
Every day	93.1	92.5		95.9	89.7	93.4		92.7
Every few days	5.8	4.9		2.6	7.5	4.8		5.2
Every week	1.0	0.2	*ns*	1.5	0.3	0.0	*ns*	0.4
Every month	0.0	0.1		0.0	0.1	0.1		0.0
Every few months	0.0	2.4		0.0	2.5	1.8		1.6
N	*145*	*408*		*55*	*176*	*322*		*553*

Long-term Care	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Kind of care provided								
Preparation of food	99.7	95.2	***	99.5	92.5	98.5	***	96.7
Give medicine	60.5	67.4	*ns*	58.5	58.6	73.4	*ns*	65.1
Self-care (e.g. bathing and washing)	43.6	55.2	*ns*	31.5	41.0	69.3	*	51.4
Getting up from bed or chair	36.9	37.2	*ns*	44.9	19.1	46.9	*	37.1
Assist in moving around	39.1	46.0	*ns*	44.9	29.4	54.0	*ns*	43.7
N	*145*	*408*		*55*	*176*	*322*		*553*
Person the older person would like to receive care from in case the older person will have dementia								
Spouse	51.6	6.4		27.7	22.6	8.6		23.3
Son	15.5	14.3		16.6	13.4	12.7		14.8
Daughter	20.9	59.1		41.4	46.4	52.7		44.9
Son-in-law	0.0	0.0		0.0	0.0	0.0		0.0
Daughter-in-law	0.3	2.5		0.9	1.4	5.7		1.7
Grandson	0.4	2.4	***	0.9	2.2	2.4	***	1.6
Granddaughter	1.6	5.0		2.9	4.0	6.1		3.7
Personal aide	0.3	0.3		0.2	0.3	1.1		0.3
Hospital	0.3	0.0		0.0	0.0	0.8		0.1
Convalescence home	0.2	0.2		0.0	0.5	0.1		0.2
Others (e.g. siblings and nieces)	6.4	6.0		7.4	5.0	5.8		6.2
Not sure	2.5	3.6		1.9	4.4	3.9		3.2
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Person who will most likely take care of older person in case the older person will have dementia								
Spouse	46.9	6.0		25.5	20.6	7.3		21.2
Son	16.4	14.3		16.5	14.1	13.0		15.1
Daughter	24.4	57.9		43.5	45.4	52.4		45.4
Son-in-law	0.0	0.0		0.0	0.0	0.0		0.0
Daughter-in-law	0.2	3.1		1.5	1.5	5.9		2.1
Grandson	0.3	1.9	***	0.6	1.3	4.0	***	1.3
Granddaughter	2.0	5.5		2.7	5.2	6.1		4.2
Personal aide	0.4	0.4		0.2	0.6	0.9		0.4
Hospital	0.0	0.0		0.0	0.0	0.0		0.0
Convalescence home	0.2	0.0		0.0	0.2	0.1		0.1
Others (e.g. siblings and nieces)	5.9	5.5		7.5	3.7	5.5		5.6

Long-term Care	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Not sure	3.3	5.5		2.1	7.4	4.8		4.7
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Person the older person would like to receive care from in case the older person becomes invalid or bedridden								
Spouse	41.3	6.0		23.7	17.5	7.6		19.2
Son	20.2	15.9		20.6	15.1	14.2		17.5
Daughter	26.3	60.3		42.8	51.3	53.3		47.6
Son-in-law	0.1	0.1		0.0	0.1	0.1		0.1
Daughter-in-law	0.1	2.6		0.5	2.2	4.2		1.7
Grandson	0.7	2.1	***	0.9	1.7	3.6	**	1.5
Granddaughter	1.6	5.1		2.9	4.0	6.5		3.8
Personal aide	0.6	0.7		0.6	0.5	1.7		0.7
Hospital	0.0	0.1		0.0	0.0	0.3		0.0
Convalescence home	0.2	0.2		0.0	0.4	0.1		0.2
Others (e.g. siblings and nieces)	5.8	4.8		6.0	4.2	5.9		5.2
Not sure	3.1	2.1		2.0	3.0	2.6		2.5
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Person who will most likely take care of older person in case older person becomes invalid or bedridden								
Spouse	41.7	6.5		23.8	18.7	7.2		19.7
Son	19.3	16.7		21.4	14.8	13.4		17.7
Daughter	26.2	54.4		41.8	43.3	54.0		43.9
Son-in-law	0.0	0.0		0.0	0.0	0.0		0.0
Daughter-in-law	0.7	3.2		1.4	2.4	5.3		2.3
Grandson	0.5	2.2	***	0.6	2.1	3.6	***	1.6
Granddaughter	2.0	7.5		3.0	8.1	5.6		5.4
Personal aide	0.4	0.7		0.6	0.5	0.9		0.6
Hospital	0.0	0.1		0.0	0.0	0.3		0.0
Convalescence home	0.2	0.1		0.0	0.2	0.1		0.1
Others (e.g. siblings and nieces)	5.9	4.3		5.9	3.7	5.2		4.9
Not sure	3.0	4.3		1.6	6.1	4.4		3.8
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Note: Results of the same questions are shown in Table 6.8 of the baseline report.

Source: Calculated by the DRDF using original LSAHP W2 data.

4. Summary, Conclusions, and Recommendations

The foregoing discussion provides a comprehensive assessment of the health status of older Filipinos, covering the various dimensions of their health status, health-related behaviours, and healthcare utilisation. Various dimensions of health, including diagnosed illnesses, functional health, self-rated health, depressive symptoms, oral health, and health-related behaviours, including smoking, drinking, diet, nutrition, sleep, falls, pain, and incontinence, were explored by sex and age to help identify sectors with relatively higher health risks. Healthcare utilisation, including long-term care, health insurance coverage, vaccination, and access to government health services for older people, was likewise discussed.

The results indicate the poor health state of older Filipinos, marked by a high prevalence of physician-diagnosed illnesses, primarily noncommunicable diseases. Approximately three in four (73%) reported having at least one physician-diagnosed illness. Data also reveal that a substantial proportion of individuals are unable to perform at least one self-care activity or activity for independent living. This is confirmed by the GALI results, which indicate that at least 15% are severely limited. Extreme functional health difficulty is experienced by 4% of respondents who reported being bedridden within the last 2 weeks. As expected, older people experienced increasing functional difficulty with advancing age, although gender differences are not consistent across the six measures of functional difficulty considered. For items showing significant gender differences, females reported greater difficulty with specific activities due to health reasons, except for being bedridden, which is more prevalent amongst males than females. It is significant to note that Filipino older people are generally functional with almost 80% without any ADL difficulty despite that three-quarters of them have been diagnosed with at least one illness.

Older Filipinos also have poor oral health, with females exhibiting worse conditions compared to males. A third of older people are troubled with pain, with most reporting moderate to severe pain. Additionally, about one in four individuals experienced a fall in the past year.

Health gaps are notable. This is best illustrated in the case of hypertension, the most prevalent diagnosed illness, which has relatively low treatment rates. Those with high blood pressure reported limited access to the government's free medicine for hypertension. The low level of ownership of blood pressure monitors at home, particularly amongst older males also implies a risk of undiagnosed hypertension. Poor awareness is confirmed by the LSAHP W1, which shows that 38% of respondents with hypertension are unaware of their condition (Abalos et al., 2023). These and other related findings indicate a lack of basic knowledge amongst older people that would help them monitor their health condition. This is also demonstrated by the finding that almost a quarter of older people are uncertain if they have lost weight in the past quarter. These results point to the need for more educational interventions to guide older people on basic health monitoring to ensure better health management. A health gap in treatments is also observed amongst those who have experienced a heart attack, with more than half not currently taking medication for their heart condition. Ischaemic heart disease is

the leading cause of death in the Philippines (Philippine Statistics Authority, 2024). Additionally, 24% of diabetics are not taking maintenance medication.

Unmet need for health services is evident, with about a fifth of older people facing difficulties accessing healthcare services when needed, mostly due to financial reasons. Significant proportions are not aware of government programmes aimed at promoting the health of older people, such as the free vaccination programme for pneumococcal disease and influenza, as well as free medicines for hypertension and diabetes. Only 63% are covered by health insurance, mostly PhilHealth, suggesting a significant gap between the stipulations of universal healthcare law and the actual picture on the ground.

The prevalence of poor health and disability amongst older people highlights the magnitude of care requirements for older people. There is a need to reexamine care for older people traditionally provided by the family, primarily women, in the context of rapidly changing realities. These changes include increasing diversity in family and social relationships and the rising education, employment, and mobility of women. The erosion of traditional pathways and changing values, as evidenced by findings from the Young Adult Fertility and Sexuality Study, will have an impact on future social support and intergenerational financial exchanges (Laguna, Kabamalan, and Marquez, 2024). Addressing the current health gaps, which are expected to expand with the country's ageing demographics, will require adjustments in policies and programmes to better address the health demands of an ageing population.

References

Abalos, J.B., Y. Saito, M.A. Ramos, and G.T. Cruz (2023), 'Prevalence, Awareness, Treatment, and Control of Hypertension among Older Adults in the Philippines', *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*. https://doi.org/10.1093/gerona/glad155

Afable, S.B.D. (2021), Demographic Correlates of Late-life Depression in the Philippines: Exploring Gender Differences [Unpublished master's thesis, University of the Philippines Diliman].

Bailey, R.L., P.E. Miller, D.C. Mitchell, T.J. Hartman, F.R. Lawrence, C.T. Sempos, and H. Smiciklas-Wright (2009), 'Dietary Screening Tool Identifies Nutritional Risk in Older Adults', *The American Journal of Clinical Nutrition*, 90(1), pp.177–83. https://doi.org/10.3945/ajcn.2008.27268

Bogaert, P., H. Van Oyen, I. Beluche, E. Cambois, and J.M. Robine (2018), 'The Use of the Global Activity Limitation Indicator and Healthy Life Years by Member States and the European Commission', *Archives of Public Health*, 76, 30. https://doi.org/10.1186/s13690-018-0279-z

Buysse, D.J. (2014), 'Sleep Health: Can We Define It? Does It Matter?' *Sleep*, 37(1), pp.9–17.

Gellis, Z.D. (2010), 'Assessment of a Brief CES-D Measure for Depression in Homebound Medically Ill Older Adults', *Journal of Gerontological Social Work*, 53(4), pp.289–303. https://doi.org/10.1080/01634371003741417

Global Burden of Disease Collaborative Network (2021), Global Burden of Disease Study 2021 (GBD 2021) [Dataset]. Institute for Health Metrics and Evaluation (IHME). https://vizhub.healthdata.org/gbd-results/

Heun, R., M. Bonsignore, K. Barkow, and F. Jessen (2001), 'Validity of the Five-item WHO Well-Being Index (WHO-5) in an Elderly Population', *European Archives of Psychiatry and Clinical Neuroscience*, 251, pp.27–31. https://doi.org/10.1007/BF03035123

Huber, M. et al. (2011), 'How Should We Define Health?', *BMJ*, 343. https://doi.org/10.1136/bmj.d4163

Kohout, F.J., L.F. Berkman, D.A. Evans, and J. Cornoni-Huntley (1993), 'Two Shorter Forms of the CES-D Depression Symptoms Index', *Journal of Aging and Health,* 5(2), pp.179–93. https://doi.org/10.1177/089826439300500202

Kotschy, R. and D.E. Bloom (2022), 'A Comparative Perspective on Long-term Care Systems', *International Social Security Review,* 75(3–4), pp.47–69. https://doi.org/10.1111/issr.12307

Laguna, E.P., M.M.K. Kabamalan, and M.P.N. Marquez (eds.). (2024). *The Filipino Adolescent and Youth: Context, Continuity, and Change*. Quezon City: University of the Philippines Press.

Llena-Nozal, A., E. Rocard, and P. Sillitti (2022), 'Providing Long-term Care: Options for a Better Workforce', *International Social Security Review*, 75(3–4), pp.121–44. https://doi.org/10.1111/issr.12310

Lusica, P.M.M. and C.A. Jimeno (2023), 'Prevalence of Metabolic Syndrome and Specific Cardiovascular Risk Factors Among Older Persons in the Philippines: Results from the 8th Philippine National Nutrition Survey', *Acta Medica Philippina*, 57(12). https://doi.org/10.47895/amp.vi0.5719

Madans, J.H., M.E. Loeb, and B.M. Altman (2011), 'Measuring Disability and Monitoring the UN Convention on the Rights of Persons with Disabilities: The Work of the Washington Group on Disability Statistics', *BMC Public Health*, 11(4), S4. https://doi.org/10.1186/1471-2458-11-S4-S4

Nagi's Disability Model (2019), *Physiopedia*, 14 July. https://www.physio-pedia.com/Nagi%27s_Disability_Model

Paguirigan, M.R.B. (2023), Correlates of Healthcare Utilization and Unmet Need for Healthcare Services among Older Filipinos [Unpublished master's thesis, University of the Philippines Diliman].

Paxton, A.E., L.A. Strycker, D.J. Toobert, A.S. Ammerman, and R.E. Glasgow (2011), 'Starting the Conversation Performance of a Brief Dietary Assessment and Intervention Tool for Health Professionals', *American Journal of Preventive Medicine*, 40(1), pp.67–71. https://doi.org/10.1016/j.amepre.2010.10.009

Philippine Statistics Authority (2024), *2023 Causes of Death in the Philippines (Provisional as of 30 November 2023)* (No. 2024-59). Quezon City: Philippine Statistics Authority.

Radloff, L.S. (1977), 'The CES-D Scale: A Self-report Depression Scale for Research in the General Population', *Applied Psychological Measurement*, 1(3), pp.385–401. https://doi.org/10.1177/014662167700100306

Sibai, A.M., M. Chaaya, R.A. Tohme, Z. Mahfoud, and H. Al-Amin (2009), 'Validation of the Arabic Version of the 5-item WHO Well-Being Index in Elderly Population', *International Journal of Geriatric Psychiatry*, 24(1). https://doi.org/10.1002/gps.2079

Topp, C.W., S.D. Østergaard, S. Søndergaard, and P. Bech (2015), 'The WHO-5 Well-Being Index: A Systematic Review of the Literature', *Psychotherapy and Psychosomatics*, 84(3), pp.167–76.

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation (DRDF) (2021, April). 'Vaccinating the Most Vulnerable Group in the Time of Pandemic: Insights from a National Survey of Older People', *UPPI/DRDF Research Brief* No. 9. https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19- Research-Brief-09.pdf

Chapter 5

Geographic Context

Jose Andres F. Ignacio
Jeconiah K. Boongaling
Leo Angelo L. Ocampo

Introduction

The geographical context in which people age can profoundly influence their health, quality of life, and overall ageing experience (Choi, Kwon, and Kim, 2018; Choi, 2020; Wahl, Iwarsson, and Oswald, 2012; Wood et al., 2022). An archipelago of over 7,000 islands, the Philippines encompasses a variety of landscapes, including mountains with rainforests, agricultural plains, coastal areas, and urban metropolises. Because of this diversity of landforms and social spaces, aspects such as the environment, climate, terrain, infrastructure, and access to services can vary widely across the different geographic regions of the country.

Factors such as the ease of access to health facilities, the available modes of transport, and older people support networks are place-based and significantly influence health and well-being (Smith, 2009). Differences in environmental elements such as pollution, soil and water contaminants, extreme weather events, and natural hazards also explain differences in older persons' vulnerability across geographic locations (Di Ciaula and Portincasa, 2020). Regional variations in cultural norms, family structures, and caregiving practices also play a role. Consequently, older persons in isolated rural villages face different challenges than those living in bustling urban areas (Baernholdt et al., 2012). Understanding the risks and realities of ageing in diverse geographic contexts is crucial to ensuring that adequate and appropriate healthcare resources are allocated to meet the unique needs of the ageing population in each milieu (Bacsu et al., 2012; Donovan and Blazer, 2020).

Spatial patterns and clusters of geosocial and geophysical phenomena can determine conditions that may affect the well-being and quality of life of older persons. Geospatial data allows for the integration of physical and human geographic factors, which, when combined with socioeconomic components, provides a more comprehensive and nuanced understanding of the factors influencing healthy ageing (Kwan, 2012). By integrating global positioning system (GPS) data collected from LSAHP respondents with social and environmental data using advanced geospatial technologies, physical factors are combined with the traditional socioeconomic and demographic determinants of health. This provides a more comprehensive understanding of health outcomes.

This chapter aims to use geospatial covariates to describe the geographic locales of older Filipinos using GPS data collected during the LSAHP: Wave 2 survey. Geospatial covariates are variables that incorporate the location of survey respondents with ancillary geographic data using geomatics technology (The DHS Program, 2024), more commonly known as mapping and spatial analysis tools. These variables help researchers understand how a person's geographic context might influence the topic being studied. For example, they could show how close a respondent lives to important services or what environmental conditions they experience based on their location.

This novel approach has not been explored in previous ageing research in the Philippines. Desjardins et al. (2023) proposed a research agenda that incorporates longitudinal geospatial health data to better capture risk factors such as ageing, prompting the need for more longitudinal studies in health. Our analysis will determine the proximity of respondents to various social infrastructure characteristics such as health facilities, services, spaces, and networks that affect a community's quality of life and well-being. To illustrate some of these findings, we will provide a series of maps showing the distribution of these indicators, highlighting the LSAHP study areas. We will also provide a map of health facilities per barangay throughout the country using available data from the DOH to validate findings using the LSAHP data.

Our analysis examines the spatial disparities in geospatial covariates by urbanity (urban or rural) and major area group (NCR, Balance Luzon, Visayas, and Mindanao). To offer a better overview of the spread of the computed indicators, quartiles are presented by urbanity and major area groups.

The succeeding sections discuss the methodologies developed to derive geospatial covariates, particularly proximity to various services critical to the well-being of older persons. Subsequently, findings encompassing geospatial covariates for social infrastructures are presented. Finally, we synthesise these results to provide insights into their implications and potential applications for enhancing the quality of life of older persons.

1. Utilising GPS Data and Method for Ageing Research: Issues and Challenges

Our analysis utilises GPS data collected during the LSAHP second wave using Lenovo M10 Plus tablets running on Android 9. Similar data were collected in the LSAHP first wave. To assess the usefulness of the W1 GPS data, we cross-checked the positional quality of the GPS location values with established reference locations (Ignacio, 2023). Based on the W1 data assessment, we made recommendations for improving the quality of GPS data collection for W2, including adopting better geolocation techniques.

For the analysis in this chapter, we employed two main GPS data fields collected by the tablets during the surveys: Longitude (GPS_LONGITUDE) and Latitude (GPS_LATITUDE). We initially considered using the Altitude (GPS_ALTITUDE) data but found that it was not as reliable due to the inherent complexity of calculations needed to capture the Altitude variables. We instead used more reliable data from interferometric synthetic aperture radar digital elevation models (DEMs) accessed from the Department of Science and Technology – University of the Philippines Disaster Risk Exposure Assessment and Mitigation (DOST-UP DREAM) Program in 2017 (DAD-UP DREAM/PHIL-LiDAR 1, 2017). We used the Longitude and Latitude variables to extract the altitude or elevation values for each respondent's location on the DEM.

Geographic information system (GIS) data sourced from OpenStreetMap (OSM) were also used in the analysis. OSM is a collaborative open-source project involving hundreds of thousands of volunteers in mapping the world. OSM data is collected from various sources, such as survey results, aerial photographs, and GPS traces, and is continually updated with new information by the community (OpenStreetMap, 2022). Data from OSM can be downloaded from their website in various geospatial formats, which can then be used in GIS. This allows them to be processed with survey data that contain location characteristics, i.e. latitude and longitude fields.

The LSAHP GPS locational parameters and complementary data were combined to generate social infrastructure variables that make it possible to determine the respondents' proximity to several social infrastructures that may have a significant bearing on their well-being and health. Factors such as distance to several relevant services or facilities indicate their degrees of isolation or exclusion from these services, which, in turn, may significantly affect their health. Additional information from complementary data also provides a more realistic measure of the degree of urbanisation in their milieu, which can be correlated with road density within their local living spaces.

Listed below are the data sources, the corresponding derived variables, and their significance:

1. Major Roads and Highways
   - OSM Data: Thoroughfare locations
   - Derived Variable: Proximity to nearest main road (highway or primary trunk)
   - Significance: Indicates access to critical health and other services
2. Municipal or City Centres
   - OSM Data: Local government point locations
   - Derived Variable: Proximity to municipal or city centre
   - Significance: Represents access to government services and facilities
3. Health Facilities
   - OSM Data: Locations of clinics and hospitals (excluding specialised clinics)
   - Derived Variable: Proximity to nearest health facility
   - Significance: Reflects ease of access to essential healthcare services
4. Pharmacies
   - OSM Data: Pharmacy locations
   - Derived Variable: Proximity to nearest pharmacy
   - Significance: Indicates access to medicines and medical supplies
5. Financial Institutions
   - OSM Data: Locations of banks and automated teller machines (ATMs)
   - Derived Variable: Proximity to nearest financial institution
   - Significance: Ensures access to financial services for health-related needs
6. Road Network
   - OSM Data: Comprehensive road network
   - Derived Variable: Road density within a 500-metre radius of the respondent
   - Significance: Provides a realistic measure of urbanisation in the respondent's immediate environment

Additional Variable:

1. Altitude or Elevation
   - Source: Original GPS position collection
   - Variable: Meters above sea level (MASL)
   - Significance: May influence health due to climate differences and potential isolation in higher areas

These variables allow us to assess respondents' proximity to social infrastructures that may significantly impact their well-being and health. Factors such as distance to services indicate degrees of isolation or exclusion, which can have substantial health implications for older individuals. Although altitude or elevation technically does not represent a social infrastructure geospatial covariate, the original GPS position collection included an altitude variable, the least accurate amongst the three positional variables that included latitude and longitude. Altitude may play a part in the health and well-being of older persons (Liu et al., 2023) because these areas represent cooler climates and less pollution. However, they may also be associated with increased isolation since most of these areas are in remote rural areas, affecting access to healthcare and related services.

2. Mitigating Errors in Mobile-device-based Social Survey Data Collection

This section explores the challenges in collecting GPS data in the LSAHP surveys. We also discuss how these data limitations were managed and mitigated before employing this data for our analysis.

A major problem affecting the collection of quality data is poor connectivity. Tablets usually collect GPS data and rely on mobile data or Wi-Fi signals to obtain a satellite fix for determining geographic coordinates (Barzilay, 2019). Without cellular networks to assist GPS, it can take over 12.5 minutes for a tablet to download the necessary ephemeris data directly from GPS satellites[1] (Langley, 2015). This data is essential for accurate position capture. In remote rural locales and areas obstructed by buildings or thick vegetation and plagued with intermittent cell connectivity and multipath GPS signal errors, it is difficult for mobile devices to accurately log locations (Abdalla, 2016). These errors were evident in the LSAHP W1 survey, where almost 25% of the raw positional data from the tablets used either had null values or were positioned far from their designated barangay locations or the centroid of the clusters of respondents in their respective community groups (Ignacio, 2023).

Technological advancements and a better understanding of cell-assisted GPS significantly mitigated the positional errors in the LSAHP: Wave 2 survey compared to Wave 1. We also provided comprehensive training for field interviewers, which included tips on checking the strength or presence of cell signals, allotting more time to gather positional readings in areas with poor or non-existent signals, and seeking areas with minimal obstructions to the sky. Additionally, we modified the software coding used in the survey rounds to ensure improved collection of positional data. As a result, only 3.3% of W2 raw positional data were erroneous, an improvement of 22 percentage points from W1.

3. Error Correction for Wayward GPS Positions

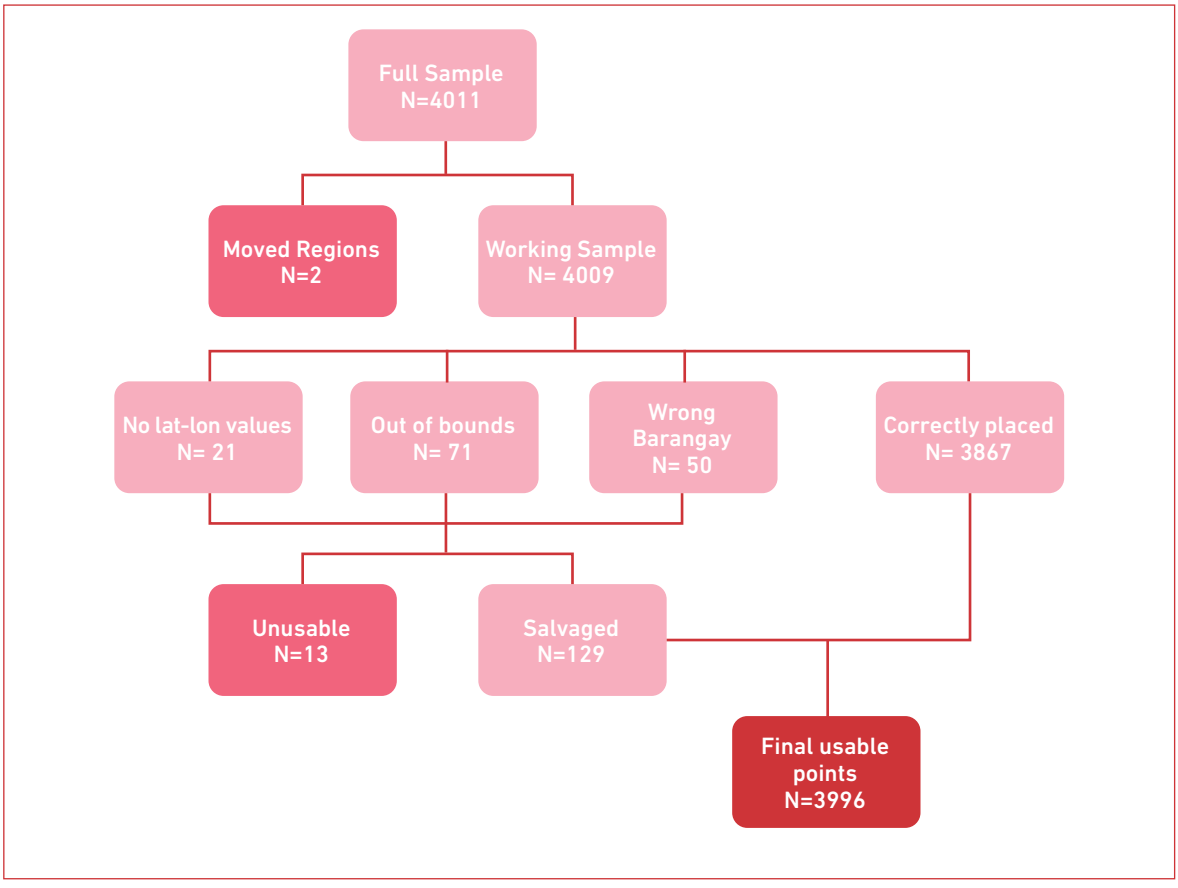
Part of assessing the validity of the LSAHP point locations was to reference it with an established polygon GIS dataset of barangays (villages) of the Philippines, available through the United Nations Office for the Coordination of Humanitarian Affairs. This dataset possesses real Philippine Standard Geographic Codes (PSGC) for the barangays, which can be cross-referenced with the raw plot of the individual LSAHP survey points (Humdata, 2023). The PSGCs of the barangays, which uniquely identify local governance geographic areas, were used to match the LSAHP and OCHA polygon datasets.

[1] Ephemeris data is a table or data file that provides the calculated positions of a celestial object, such as a GPS satellite, at regular intervals throughout a period. This table is crucial to rapidly establishing satellite references, which is the entire basis for GPS positioning.

The analysis focuses on the 4,011 respondents from Wave 1 who were reinterviewed in Wave 2. Eighty-seven respondents changed their residence between W1 and W2, crossing the boundaries of their original barangays. Of these, two respondents moved across regional boundaries and outside the original LSAHP study area. These cases were excluded from the analysis, leading to an analytical sample of 4,009 cases.

Furthermore, 21 points lacked latitude and longitude values, 71 cases were out of bounds, e.g. in bodies of water or other countries, and 50 cases were misclassified in a different barangay. To allow for the possibility of using cases with no positional values or erroneous readings for geospatial analysis, the centroids or average positions of correctly placed barangay cluster respondents were calculated and used as substitute values for the errant cases for that barangay. After implementing these corrections, only 13 cases remained unlocatable and were excluded from geospatial analysis. As a result, the analytical sample size was further reduced to 3,996 cases for analysis involving the use of GPS locations (Figure 5.1).

Figure 5.1. Derivation of the Analytical Sample



Source: Calculated by DRDF using original LSAHP W2 data.

We used the following open-source software for the GIS processing and mapping: PostgreSQL, PostGIS, and QGIS. PostgreSQL is a robust relational database management system whilst PostGIS is an extension that adds support for geographic objects and spatial functions in PostgreSQL. It allows the storing, analysing, and querying of spatial data within a PostgreSQL database. The first two are scripting-based applications, whilst QGIS is a graphical GIS application that is one of the most popular open-source GIS projects.

4. Geospatial Covariates for Social Infrastructures

The geospatial data revealed various insights into the accessibility of important social infrastructures to older persons. Table 5.1 summarises the estimated distances to the nearest main roads, municipal or city centres, health facilities, pharmacies, and financial institutions, along with estimated measures for road density and elevation. Note that the distances computed were straight line Euclidean distances between the respondents and the points of interest and do not represent the actual distances travelled using existing road networks and travel times.

Table 5.1. Geospatial Covariates for Social Infrastructures by Urbanity and Major Area Group

Geospatial Covariates	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest main road (km)									
Quartile 1	0.38	0.21		0.24	0.35	0.11	0.29		0.24
Quartile 2 (Median)	1.82	0.48	**	0.47	0.71	0.49	0.85	*	0.62
Quartile 3	5.74	0.81		0.67	2.55	6.84	4.12		2.65
Distance to the municipal or city centre (km)									
Quartile 1	2.13	0.66		2.04	1.39	0.50	1.68		1.39
Quartile 2 (Median)	4.71	2.06	*ns*	2.60	2.66	5.99	3.22	*	2.98
Quartile 3	11.72	3.89		3.09	5.48	12.65	8.33		7.39
Distance to the nearest health facility (km)									
Quartile 1	1.59	0.22		0.22	0.67	0.21	1.15		0.54
Quartile 2 (Median)	4.03	0.62	*	0.37	1.25	5.60	3.76	***	1.44
Quartile 3	9.22	1.27		0.58	4.00	13.26	8.45		6.58

Geospatial Covariates	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest pharmacy (km)									
Quartile 1	2.10	0.22		0.20	0.56	0.42	1.59		0.45
Quartile 2 (Median)	9.09	0.52	***	0.37	1.38	12.93	9.33	***	1.78
Quartile 3	13.81	1.57		0.47	4.95	18.84	20.95		12.48
Distance to the nearest financial facility (km)									
Quartile 1	2.19	0.18		0.15	0.63	0.25	1.47		0.42
Quartile 2 (Median)	4.55	0.51	***	0.37	1.60	9.60	3.06	***	1.96
Quartile 3	13.86	1.59		0.57	3.96	20.79	11.47		8.55
Road density (m/ha)									
Quartile 1	16.76	70.44		209.64	27.75	14.60	20.61		22.67
Quartile 2 (Median)	26.97	150.81	***	244.47	82.74	25.63	31.37	***	63.71
Quartile 3	52.12	223.26		244.47	115.65	118.36	56.37		157.16
Elevation (m)									
Quartile 1	10.42	7.04		9.22	9.13	6.79	11.89		8.98
Quartile 2 (Median)	20.43	11.66	*ns*	12.28	15.40	13.10	26.52	*ns*	15.47
Quartile 3	64.84	28.48		31.07	31.60	52.33	113.38		37.48
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

The analysis of median distances estimates that at least half of the older persons reside within 0.6 km of the nearest main road, within 3.0 km of their municipal or city centres, within 1.4 km of the nearest health facility, within 1.8 km of the nearest pharmacy, and within 2.0 km of the nearest financial institution. Conversely, the remaining half of older persons reside farther away from these infrastructures.

At least half of the older persons reside in areas with a road density of 63.7 m per hectare or less, whilst the remaining half experience higher road density. Similarly, at least half of the older persons live in areas with elevations of 15.5 m or less above sea level, with the remaining half at higher elevations. Although there are no established limits or cutoffs for road density and elevation and their relationships to the older persons' health, the literature suggests that higher road densities are negatively correlated with older persons' health (Zhang et al., 2021). Studies have consistently reported that proximity to roads and higher road densities are linked to increased levels of traffic-related air pollutants such as nitrogen dioxide (NO2) and particulate matter (PM2.5 and PM10). These pollutants are known to impair cognitive function and increase the incidence of neurological disorders in adults (Yuchi et al., 2020). People living at higher altitudes reported higher physical and social quality of life (Liu et al., 2023).

Statistically significant differences are observed across urbanity and major area groups, underscoring disparities in accessibility. However, it is notable that the distance to municipal or city centres does not show significant variation across urbanity, suggesting a more consistent distribution regardless of urban or rural settings. Moreover, variations in elevation across urbanity and major area groups lack statistical significance.

Building on this, a comparable analysis can be conducted using the first and third quartiles, providing additional insights into the distribution of distances and other related measures amongst older persons. This perspective helps capture the range of experiences, highlighting not only the median but also the spread of various measures for key social infrastructures.

Whilst median estimates provide single summary measures of how older persons fare in terms of the accessibility of social infrastructures, the experiences of those in more extreme situations should not be overlooked. Tables 5.2 to 5.8 further emphasise this, presenting the percent distribution of older persons across categorical measures related to the same social infrastructures outlined in Table 5.1, by urbanity and major area groups.

As shown in Table 5.2, 11% of older persons reside 10 km or more from the nearest main road. This situation applies to 4% of older persons in urban areas and 17% of older persons in rural areas. In Visayas, 22% of older persons find themselves in this circumstance, contrasting sharply with the zero percentage in the NCR, where nearly all reside within a 10 km radius of the nearest main road.

Table 5.2. Percent Distribution of Older Persons by Distance in Kilometres from Residence to the Nearest Main Road by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest main road									
Less than 0.5 km	30.2	51.3		52.1	33.7	50.8	38.9		40.5
0.5 to less than 1 km	10.9	27.8	**	39.3	22.5	6.8	13.3	**	19.2
1 to less than 10 km	41.7	16.4		8.6	39.4	20.5	27.1		29.4
10 km or more	17.1	4.5		0.0	4.4	22.0	20.7		10.9
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

**p < .01, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

For about one out of five (21%) older persons, their municipal or city centre is more than 10 km away from their residence. This condition also applies to 11% of older persons in urban areas and 31% of older persons in rural areas. In the Visayas, 36% of older persons face this scenario, followed by Mindanao at 24% (Table 5.3).

Table 5.3. Percent Distribution of Older Persons by Distance in Kilometres from Residence to the Municipal or City Centre by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the municipal or city centre									
Less than 0.5 km	4.1	15.9		0.9	7.6	25.0	4.0		9.9
0.5 to less than 1 km	5.5	19.1	**	8.5	14.6	7.9	13.0	*	12.1
1 to less than 10 km	59.6	53.7		90.6	59.2	31.1	59.4		56.7
10 km or more	30.8	11.3		0.0	18.7	36.1	23.6		21.3
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

*p < .05, **p < .01.

Source: Calculated by the DRDF using original LSAHP W2 data.

Similarly, according to Table 5.4, 16% of older persons live 10 km or more from the nearest health facility. A significant rural–urban disparity is noted, with 23% of rural residents in such locations compared to 9% of the urban population. Across major area groups, the disadvantageous condition in Visayas and Mindanao is evident in the significant proportion of older persons residing more than 10 km from the nearest health facility. The situation in the Visayas region shows an intraregional disparity: 30% reside within half a kilometre of the nearest health facility, slightly less than the 38% living more than 10 km away. This differs from the situation in the Mindanao region, where only 11% are within half a kilometre of the closest health facility. Due to the more archipelagic characteristic of the Visayas region, the population tends to be more concentrated along the coastal zones of the islands. Hence, the closer proximity of health facilities to the respondents.

Table 5.4. Percent Distribution of Older Persons by Distance in Kilometres from Residence to the Nearest Health Facility by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest health facility									
Less than 0.5 km	4.9	42.7		66.3	15.2	30.5	10.7		23.4
0.5 to less than 1 km	10.6	21.1	***	28.4	22.6	0.8	8.6	***	15.8
1 to less than 10 km	61.3	27.3		5.2	54.7	30.8	58.5		44.7
10 km or higher	23.1	8.8		0.0	7.5	37.9	22.3		16.1
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

***p < .001.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 5.5 reveals that 29% reside at least 10 km away from the nearest pharmacy. Additionally, according to Table 5.6, 24% are situated 10 km or more from the nearest financial institution. Similar to previous findings, the data reveal the significant urban–rural disparity and disadvantageous situation in the Visayas and Mindanao areas relative to the main island of Luzon.

Table 5.5. Percent Distribution of Older Persons by Distance in Kilometres from Residence to the Nearest Pharmacy by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest pharmacy									
Less than 0.5 km	5.3	49.1	***	80.2	23.2	27.7	3.6	***	26.7
0.5 to less than 1 km	12.9	13.2		19.7	17.8	3.8	8.1		13.1
1 to less than 10 km	37.4	24.4		0.1	43.3	13.0	39.1		31.0
10 km or more	44.3	13.4		0.0	15.7	55.5	49.2		29.2
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

***p < .001.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 5.6. Percent Distribution of Older Persons by Distance in Kilometres from Residence to the Nearest Financial Facility by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Distance to the nearest financial facility									
Less than 0.5 km	5.9	49.4	***	67.6	23.8	29.1	10.0	***	27.1
0.5 to less than 1 km	5.0	12.5		28.6	8.0	1.1	7.3		8.7
1 to less than 10 km	53.5	26.8		3.9	52.8	20.2	53.9		40.5
10 km or more	35.6	11.3		0.0	15.4	49.6	28.7		23.7
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

***p < .001.

Source: Calculated by the DRDF using original LSAHP W2 data.

These extreme distances are more prevalent in rural areas compared to urban ones and in Visayas and Mindanao compared to the NCR and Balance Luzon. The observed differences are statistically significant.

Exploring measures other than distances, Table 5.7 indicates that nearly half (46%) of older persons live in areas where the road network density within a 500 m radius is less than 50 m per hectare. An urban–rural disparity is evident, with three quarters (75%) of older persons in rural areas residing in areas with low road density compared to only 16% amongst their urban counterparts. A similar finding in China reveals that more older persons reside in rural areas, which also have lower road densities (Gu et al., 2022). Across major area groups, limited access to road networks presents a notable challenge for older persons in Visayas and Mindanao, with 66% and 72%, respectively, living in areas with minimal road density. This sharply contrasts with the situation in the NCR, where the majority (82%) reside in areas with a road density of 200 m per hectare or higher. Differences across urbanity and major area groups are statistically significant.

Table 5.7. Percent Distribution of Older Persons by Road Density by Urbanity and Major Area Group

Road Density	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Density of road network within a 500 m radius									
Less than 50 m/ha	74.7	16.5	***	0.0	37.4	66.2	72.1	***	46.0
50 to less than 100 m/ha	17.9	20.4		30.0	30.0	2.8	21.3		19.1
100 to less than 200 m/ha	7.4	31.4		17.8	27.5	13.4	6.5		19.3
200 m/ha or more	0.0	31.6		82.2	5.1	17.5	0.1		15.6
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

***p < .001.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 5.8 shows that 43% of older persons live 20 m above sea level or higher, potentially facing increased vulnerability to natural disasters like landslides, along with challenges in accessing essential services and infrastructure in remote or mountainous areas. In contrast, 8% of older persons live in areas 5 m above sea level, exposing them to risks associated with floods and coastal hazards such as storm surges, as well as potential impacts on agriculture and livelihoods. Differences across urbanity and major area groups are also shown in Table 5.8, but they are not statistically significant.

Table 5.8. Percent Distribution of Older Persons by Elevation by Urbanity and Major Area Group

Distance	URBANITY			MAJOR AREA GROUP					TOTAL
	Rural	Urban	Sig.	NCR	Balance Luzon	Visayas	Mind-anao	Sig.	
Elevation									
Less than 5 m above sea level	6.5	9.5		3.5	8.7	11.8	4.6		7.9
5 to less than 10 m above sea level	15.7	30.5	*ns*	28.2	22.6	27.7	15.5	*ns*	22.9
10 to less than 20 m above sea level	27.3	25.9		34.2	26.9	27.3	20.9		26.6
20 m above sea level or more	50.6	34.2		34.1	41.9	33.2	59.0		42.5
N	*2,269*	*1,727*		*398*	*1,228*	*1,170*	*1,200*		*3,996*

ns = not significant.

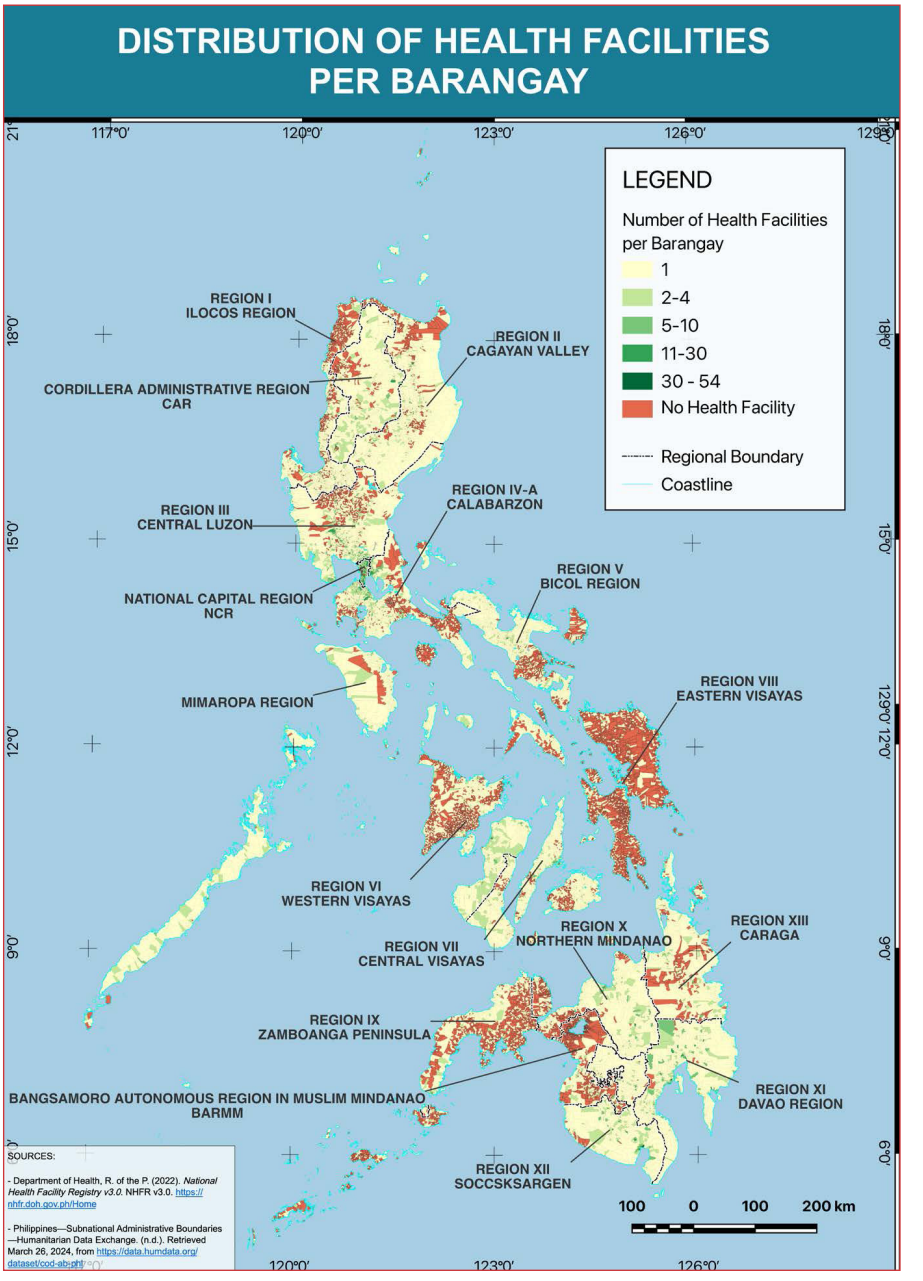
Source: Calculated by the DRDF using original LSAHP W2 data.

5. Independent Validation from Available Data

The foregoing findings were validated with the data using a map, in cartographic form, showing the distribution of OSM health facilities from DOH data, financial institutions, and major roads used for selected LSAHP sample areas. Figure 5.2 presents the 2022 nationwide distribution of health facilities registered under the DOH National Health Facility Registry. This map plots all health facilities at the barangay level using standard PSGC. The map contains a total of 40,232 health facilities, including barangay health stations, rural health units, birthing homes, hospitals, clinics, general clinic laboratories, medical outpatient clinics, dialysis clinics, infirmaries, and blood centres (DOH, 2022).

Results demonstrate the significant geographic disparity in the distribution of health facilities in the country. Health facilities are particularly inadequate in regions such as Eastern Visayas, as shown by the red areas in Figure 5.2. The severe lack of health facilities in Eastern Samar, one of the LSAHP study areas, corroborates the LSAHP finding that the Visayas region has the highest proportion of older persons (38%) residing more than 10 km away from the nearest health facility. Their situation is further aggravated by poor transportation access, with the region having the highest proportion of older persons residing at least 10 km away from the nearest main road. About two-thirds of older people in the Visayas region report very low road density (< 50 m/ha). This is in contrast with older persons living in the NCR, who have the best access to health facilities, as shown by their proximity to health facilities and the main road network and their having the highest road density across major areas in the country.

Figure 5.2. Map of the Distribution of Health Facilities per Barangay: Philippines, 2022



Cartography: Jose Andres F. Ignacio.

Data Source: Department of Health National Health Facility Registry (DOH, 2022).

6. Summary, Conclusions, and Recommendations

This chapter highlights the power of incorporating the geographical context into the analysis of the overall ageing experience of older persons. Such spatial data help identify patterns and clusters of geosocial and geophysical phenomena for a better understanding of the factors affecting older persons' well-being and quality of life. This is particularly relevant in the Philippines, where diverse landscapes and varying degrees of infrastructure development across the archipelagic terrain can significantly affect the experiences of ageing.

Older persons in remote areas of rural settings face challenges that are quite different from those in urban areas. Rural residents have poor access to the nearest social infrastructures such as main roads, municipal or city centres, health facilities, pharmacies, and financial facilities. Fewer road networks and higher elevations in rural areas exacerbate the poorer access to social infrastructures. These findings highlight the higher vulnerability of older persons living in rural areas compared to those in urban areas. By understanding these diversified contexts, resource allocation in healthcare and tailored interventions can be effectively developed to meet the unique needs of older populations in each area.

Our findings also demonstrate how advances in geolocation technologies have improved the quality of GPS data for analysis. Despite these improvements, challenges persist in achieving precise GPS data coverage, particularly in remote and obstructed areas. This underscores the need to enhance methods and technologies for data collection for future research.

The foregoing analysis, integrating geospatial and sociodemographic data, has important implications for future policies, programmes, and research aimed at improving the lives of older persons in the Philippines. These include the need for improved healthcare resource allocation. Rural areas, where access to health facilities is relatively poor, may benefit from mobile health clinics or telemedicine setups to bridge the gap. Infrastructure improvements, particularly in rural and isolated areas, need to be prioritised to ensure better access to facilities and services for older persons.

Considering the increasing natural hazards in the country, health interventions should include disaster preparedness and risk reduction, particularly in high-risk regions. Locality-specific disaster preparedness and risk reduction measures should ensure the protection of older populations. Health programme interventions must also be sensitive to the cultural norms and family structures that vary by region. Our analysis likewise highlights the need to continue improving the accuracy of geospatial data collection through better technology and training for field data gatherers.

References

Abdalla, R. (2016), *Introduction to Geospatial Information and Communication Technology* (GeoICT). Springer International. https://doi.org/10.1007/978-3-319-33603-9_2

Bacsu, J., B. Jeffery, S. Johnson, D. Martz, N. Novik, and S. Abonyi (2012), 'Healthy Aging in Place: Supporting Rural Seniors' Health Needs', *Online Journal of Rural Nursing and Health Care,* 12(2), pp.77–87. https://doi.org/10.14574/ojrnhc.v12i2.52

Baernholdt, M., G. Yan, I. Hinton, K. Rose, and M. Mattos (2012), 'Quality of Life in Rural and Urban Adults 65 Years and Older: Findings from the National Health and Nutrition Examination Survey', *The Journal of Rural Health,* 28(4), pp.339–47. https://doi.org/10.1111/j.1748-0361.2011.00403.x

Barzilay, M. (2019), Data Collection and Mobile Technologies. Research proposal. London: London Metropolitan University. https://doi.org/10.13140/RG.2.2.31541.93929

Choi, Y.J. (2020), 'Age-friendly Features in Home and Community and the Self-reported Health and Functional Limitation of Older Adults: The Role of Supportive Environments', *Journal of Urban Health,* 97(4), pp.471–85.

Choi, Y., Y.-H. Kwon, and J. Kim (2018), 'The Effect of the Social Networks of the Elderly on Housing Choice in Korea', *Habitat International,* 74, pp.1–8.

DAD-UP DREAM/PHIL-LiDAR 1 (2017), Philippines IfSAR 10m Digital Elevation Model [dataset]. https://lipad.dream.upd.edu.ph/layers/?limit=100&offset=0&keywords__slug__in=sar

Department of Health (DOH), Republic of the Philippines (2022), National Health Facility Registry v3.0 [dataset]. https://nhfr.doh.gov.ph/Home

Desjardins, M.R., E.T. Murray, G. Baranyi, M. Hobbs, and S. Curtis (2023), 'Improving Longitudinal Research in Geospatial Health: An Agenda', *Health & Place,* 80, 102994. https://doi.org/10.1016/j.healthplace.2023.102994

The DHS Program (2024), Spatial Data Repository – Geospatial Covariates. May. https://spatialdata.dhsprogram.com/covariates/

Di Ciaula, A. and P. Portincasa (2020), 'The Environment as a Determinant of Successful Aging or Frailty', *Mechanisms of Ageing and Development,* 188, 111244. https://doi.org/10.1016/j.mad.2020.111244

Donovan, N.J. and D. Blazer (2020), 'Social Isolation and Loneliness in Older Adults: Review and Commentary of a National Academies Report', *The American Journal of Geriatric Psychiatry,* 28(12), pp.1233–44. https://doi.org/10.1016/j.jagp.2020.08.005

Gu, Z., X. Luo, Y. Chen, X. Liu, C. Xiao, and Y. Liang (2022), 'Density, Diversity, and Design: Evaluating the Equity of the Elderly Communities in Three Measures of the Built Environment', *Land*, 11(11), 1976. https://doi.org/10.3390/land11111976

Humdata (2023), Philippines – Subnational Administrative Boundaries [Shapefile]. United Nations Office for the Coordination of Humanitarian Affairs. https://data.humdata.org/dataset/cod-ab-phl

Ignacio, J.A.F. (2023), A Deriving Geospatial Covariates on Social Infrastructures for LSAHP Data. Paper presented at the 2023 Philippine Population Association Scientific Conference, 27 April, Iloilo City, Philippines. https://sites.google.com/view/2023ppaconference/programme?authuser=0

Kwan, M.-P. (2012), 'The Uncertain Geographic Context Problem', *Annals of the Association of American Geographers,* 102(5), pp.958–68. https://doi.org/10.1080/00045608.2012.687349

Langley, R. (2015), 'Innovation: Faster, Higher, Stronger', *GPS World - The Business and Technology of Global Navigation and Positioning.* https://www.gpsworld.com/innovation-faster-higher-stronger/

Liu, S., F. Wang, S. Sha, H. Cai, C.H. Ng, Y. Feng, and T. Xiang (2023), 'A Comparison of Quality of Life Between Older Adults Living in High and Low Altitude Areas', *Frontiers in Public Health,* 11. https://doi.org/10.3389/fpubh.2023.1184967

OpenStreetMap (2022), About OpenStreetMap—OpenStreetMap Wiki, January. https://wiki.openstreetmap.org/w/index.php?title=About_OpenStreetMap&oldid=2310396

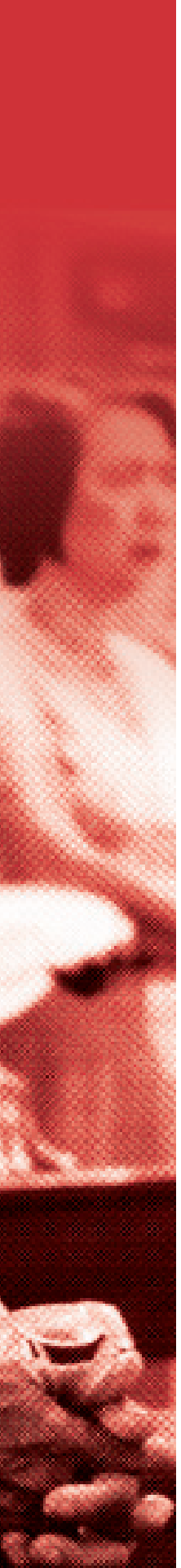
Smith, A.E. (2009), *Ageing in Urban Neighbourhoods: Place Attachment and Social Exclusion.* Bristol: Bristol University Press. http://www.jstor.org/stable/j.ctt9qgmn1

Wahl, H.-W., S. Iwarsson, and F. Oswald (2012), 'Aging Well and the Environment: Toward an Integrative Model and Research Agenda for the Future', *The Gerontologist,* 52(3), pp.306–16.

Wood, G., J. Pykett, P. Daw, S. Agyapong-Badu, A. Banchoff, A.C. King, and A. Stathi (2022), 'The Role of Urban Environments in Promoting Active and Healthy Aging: A Systematic Scoping Review of Citizen Science Approaches', *Journal of Urban Health,* 99(3), pp.427–56.

Yuchi, W., H. Sbihi, H. Davies, L. Tamburic, and M. Brauer (2020), 'Road Proximity, Air Pollution, Noise, Green Space, and Neurologic Disease Incidence: A Population-based Cohort Study', *Environmental Health,* 19(1), p. 8. https://doi.org/10.1186/s12940-020-0565-4

Zhang, R., S. Liu, M. Li, X. He, C. Zhou (2021), 'The Effect of High-density Built Environments on Elderly Individuals' Physical Health: A Cross-sectional Study in Guangzhou, China', *International Journal of Environmental Research and Public Health*, 18(19), 10250. https://doi.org/10.3390/ijerph181910250



Chapter 6

Mortality

Maria Karlene Shawn I. Cabaraban
Klarriness P. Tanalgo

One of modern society's most important public health achievements is the rise in life expectancy. Since the second half of the twentieth century, socioeconomic development, medical advancements, and improvements in public health have paved the way for major gains in life expectancy in many developed and developing nations (Gjonça and Marmot, 2005). Improved survival came with an unprecedented trade-off, characterised by a substitution in causes of death from infectious or parasitic diseases to noncommunicable or degenerative diseases such as heart conditions and cancer (Omran, 1971). An important feature of this mortality and epidemiological transition is that deaths associated with degenerative causes are more likely to strike later in the life course, leading to a postponement of death to older ages (Land and Yang, 2006). These processes provided an impetus for the burgeoning number of people reaching older adulthood and underpin the ageing of the world's population (Victor, 2010).

Much like the West, the Asian region has witnessed notable changes in old-age survival over the past several decades (Gu et al., 2017). In the Philippines, Filipinos are living longer lives than at any point in history. Estimates for the 2020 census-based population projections indicate that, on average, those who live to celebrate their 60th birthday can expect to survive 16.72 more years for males and 20.69 more years for females.[1] Improved longevity, however, is accompanied by an important caveat: Increasing disability amongst the older population means that a significant proportion of the final years of life are likely to be spent in an unhealthy state (Cruz, Cruz, and Saito, 2022). Longer yet unhealthier lives pose a challenge to the country's healthcare systems and social services, as these translate to increased demand for more intensive caregiving and financial support.

In the context of the Philippines, information on old-age mortality is mainly derived from reports of death collected by the Civil Registration and Vital Statistics (CRVS) system of the Philippine Statistics Authority. Data on mortality and morbidity are also collected by the DOH through its Field Health Services Information System, which consolidates information obtained from local registry offices as well as local health facilities. Over the years, the quality of the CRVS data in the country has improved, with the level of death registration reported at 92.3% as of 2020 (Grande, 2021). Data on the total number of older people needed to estimate the risk of death in old age are from the Census of Population and Housing.

The improvements in CRVS data quality notwithstanding, more data is still needed on older people in general and adult mortality in particular. More information and research is needed to support a more nuanced understanding of the unique conditions that older people face, particularly about factors affecting their mortality and morbidity. There are only three nationally representative surveys on older Filipinos: the 1996 Philippine Elderly Study (PES; UPPI and DRDF, 2022), the 2007 Philippine Study of Ageing (see Cruz et al., 2016), and the Longitudinal Study of Ageing and Health in the Philippines (LSAHP; see Cruz, Cruz, and Saito, 2019). The LSAHP, which is the first nationally representative panel study on older people with two waves of data collected, is the only nationally representative survey on older people with information on mortality in the country. An earlier exploratory mortality panel study on older Filipinos was conducted in the 2000 Philippine Follow-up Survey on the older-person respondents of the 1996 Philippine Elderly Survey but for selected regions. The study was the first attempt to gather panel data on older Filipinos and was conducted primarily to explore the feasibility of employing a panel study design to understand the conditions of older people. The panel data covered two out of five original areas of the 1996 PES, including the National Capital Region and Leyte, which together accounted for 46% of the total respondents in the 1996 PES (Natividad and Cruz, 2002).

[1] These figures were based on the output of the 2020 census-based population projections of the Inter-agency Working Group on Population Projections.

This chapter focuses on mortality data from LSAHP Wave 2. Information collected from interviews with informants of Wave 1 respondents who have died provides comprehensive insights into the context of older adult mortality in the Philippines. The deceased respondents' closest kin or friends (99%), who were most knowledgeable about the circumstances surrounding the deaths of the older persons, served as informants for the LSAHP Mortality Questionnaire. These were the older persons' children, spouses, other relatives, and grandchildren. In addition to the data collected in the Mortality Questionnaire, LSAHP Wave 2 also included questions from the 2022 Verbal Autopsy (VA) questionnaire developed by WHO. Results and detailed analyses of the VA interviews will not be included in this report and will be reported elsewhere.

This chapter presents an overall picture of mortality amongst older Filipinos through an examination of their background characteristics (e.g. age, marital status, and geographical location), living arrangements and caregiving situation, healthcare utilisation, and prevalence of death registration. About one in five respondents of the nationally representative Wave 1 sample (1,579 individuals) were reported deceased as of the Wave 2 data collection. Of this number, 1,514 had an informant that was available for the interview, which constitutes the analytic sample for this chapter of the report.

1. Background Characteristics

As shown in Table 6.1, more than half of those who died are females (52%); the corresponding figure for males is 48%. The mean age at death is about 77 years old, with females registering a slightly higher average age at death of 78 years compared to 75 for males. More older persons were residing in rural (60%) than in urban areas (40%) when they died.

Table 6.1. Profile of Deceased Respondents

Background Characteristics	%
Sex	
Male	48.1
Female	51.9
Mean age at death	
Male	75.37
Female	77.92
Both sexes	76.70
Place of residence	
Urban	40.1
Rural	59.9
Marital status at the time of death	
Single	5.2
Married	35.0

Background Characteristics	%
Living in	4.2
Separated, divorced, or annulled	1.3
Widowed	54.4
Major island group	
NCR	2.1
Balance Luzon	54.8
Visayas	28.9
Mindanao	14.2
N	*1514*

Source: Calculated by the DRDF using original LSAHP W2 data.

About half (54%) of those who were reported deceased were widowed at the time of their death, whilst 35% were with a spouse or partner and 4% were cohabiting. Only a small proportion (5%) were never married, and 1% were separated or divorced (Table 6.1).

2. Residential History, Living Arrangements, and Caregiving Situation

Most deaths that strike late in the life course typically follow a period of chronic, debilitating illness, which requires long-term and intensive care (Warraich, 2017). The company of family members figures prominently not only in care arrangements at the onset of disease and disability but also in the remaining period before death (Carr and Luth, 2019). For many older adults, spending their final days in the presence of their loved ones is a more favourable scenario than dying in an intensive care facility (Carr, 2012a). This becomes more meaningful when situated within the broader context of cultural expectations regarding caring for older people; this is particularly relevant in Filipino society, in which such a task typically falls on family members. Whilst death is inevitable, the nature and circumstances of the dying process have important implications for the ways in which psychological responses and coping strategies are shaped amongst bereaved caregivers, who are often wives and daughters (Agree and Glaser, 2009; Carr, 2012b; Leopold and Lechner, 2015). For example, a forewarning period that accompanies a chronic illness may allow family members to prepare effectively for their loved one's end of life and ensure a 'good death' for all (Carr, Wortman, and Wolff, 2006).

The end-of-life situation of older adults and their families has attracted much scholarly attention in the West (Ornstein et al., 2017). However, the experiences of older Filipinos in their final period of life remains understudied in the literature. This section sheds light on the end-of-life situation of older Filipinos by drawing on key information surrounding the deaths of LSAHP respondents who died before the conduct of Wave 2, highlighting their residential history, living arrangements, household composition, and caregivers.

Table 6.2 shows that older Filipinos exhibit a strong aversion to residential change in the final stages of their lives. Almost all deceased LSAHP respondents (94%) died at the same address where they were interviewed during Wave 1. This was more pronounced amongst males than females and more common in the younger cohort relative to the older age group. Only 6% of the respondents changed their home address.

Older Filipinos' preference for residential stability is further highlighted in the Wave 1 findings, which reveal an average stay of 24 years in their current residence amongst those not living in their birthplace (see Cruz and Cruz, 2019). Furthermore, they were interviewed at the baseline, only 2% of these older individuals expressed an intention to migrate within the next 2 years.

Table 6.2. Residential History and Living Arrangements at the Time of Death by Sex and Age

Residential History and Living Arrangement	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Residential history								
Same address as Wave 1	97.2	91.0	**	98.8	94.1	90.7	*	94.0
Different address from Wave 1	2.8	9.0		1.3	5.9	9.3		6.0
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Persons living with older person at the time of death								
Spouse	56.8	15.6	***	58.7	32.5	23.4	***	35.4
Son or stepson	37.2	33.6	*ns*	42.4	28.1	39.1	*ns*	35.3
Daughter or stepdaughter	46.7	44.2	*ns*	43.1	48.1	43.8	*ns*	45.4
Son-in-law	7.9	17.3	**	5.2	16.6	13.3	*ns*	12.8
Daughter-in-law	9.9	18.4	*	12.0	10.9	19.8	*ns*	14.3
Grandson	26.1	35.1	*	16.6	29.7	41.3	**	30.7
Granddaughter	21.6	38.7	**	25.7	28.6	35.8	*ns*	30.5
Other relative	8.6	16.3	*	15.5	11.5	12.0	*ns*	12.6
Nonrelative	0.4	1.2	*ns*	0.4	0.3	1.7	**	0.8
Domestic helper	0.4	0.2	*ns*	0.1	0.4	0.3	*ns*	0.3
Others	2.9	6.1	*ns*	3.7	6.0	3.5	*ns*	4.6
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Mean number of persons living with older person at the time of death	3.63	4.23	*	4.23	3.67	4.04	*ns*	3.93
N	*626*	*820*		*189*	*482*	*775*		*1,446*

*p < .05, **p < .01, *** p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

The centrality of the family in the older person's final years is reflected in the individuals living with the older person at the time of their death. The results show clear gender and age differences: significantly more males than females (57% vs 16%) resided with their spouses at the time of death. In contrast, significantly more females co-resided with extended family members, particularly their grandchildren. Most females reported living with their granddaughters (39%) and grandsons (35%) and, to a lesser extent, their daughters-in-law (18%) and sons-in-law (17%). Additionally, females were more likely than males to report living with other relatives (16% vs 9%).

As expected, the proportion of older persons living with a spouse at the time of death significantly declines with age, whilst the proportion living with their grandchildren and nonrelatives increases with advancing age. There is no significant difference in the proportion of those living with sons and daughters. Generally, only a minority had nonrelatives and/or domestic helpers living in the same household at the time of their death. Amongst older Filipinos who were not living alone when they died, the mean number of people living with them was about four (Table 6.2).

The period leading to the end of life may be characterised by functional disability and chronic illnesses, which create the need for more challenging care work from their caregivers. Results reported in Table 6.3 show that caregivers take on a critical role in the lives of older adults. More than two in every three (68%) older Filipinos were reported to have had a caregiver before their death. This is significantly more common amongst females (74%) than males (62%). Amongst those aged 80 and over when they died, about 74% were reported to have had a caregiver in their remaining years of life.

Table 6.3. Caregivers of Older Persons Prior to Death by Sex and Age

Caregiving	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who had a caregiver before death	62.4	73.7	**	64.5	65.2	74.4	*ns*	68.3
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Relationship of caregiver to older person								
Spouse	53.3	4.9		49.2	26.9	12.3		26.2
Son or stepson	8.7	12.7		8.4	11.6	11.8		11.0
Daughter or stepdaughter	22.7	52.4		19.7	41.4	48.5		39.3
Son-in-law	0.0	0.1		0.3	0.0	0.0		0.1
Daughter-in-law	2.8	9.7		1.2	7.6	8.9		6.7
Grandson	0.6	0.6	***	0.0	0.9	0.7	***	0.6
Granddaughter	2.0	6.8		1.8	1.2	9.9		4.7
Other relative	9.2	9.5		19.3	6.4	6.6		9.4
Nonrelative	0.4	1.1		0.2	1.0	1.0		0.8
Domestic helper	0.2	2.1		0.0	2.9	0.4		1.3
Others	0.0	0.0		0.0	0.1	0.0		0.0
N	*458*	*644*		*122*	*344*	*636*		*1,102*

*p < .05, **p < .01, *** p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

End-of-life caregiving is generally family centred, informal, and gendered. Most of the caregiving at the time of an older person's death is reliant on daughters (39%), spouses (26%), sons (11%), and other relatives (9%). A significant gender difference is noted, with most males citing their spouses as their caregivers (53%) compared to only 5% of females. In contrast, daughters are more prominently the caregivers of their mothers (52%) compared to their fathers (23%) at the time of the older person's death (Table 6.3).

The foregoing findings validate the Wave 1 results that show that caregiving for older persons is primarily a family responsibility, often informal, and predominantly performed by women. Findings demonstrate a higher prevalence of spousal caregiving amongst males, with the majority having their wives as their primary caregivers. Spousal caregiving is more common in the earlier stages of ageing and declines with advanced age (Laguna, 2019).

3. Healthcare Utilisation Before Death

LSAHP Wave 2 also sought to obtain information regarding the healthcare utilisation of the deceased respondents in the 12 months preceding their deaths. The mortality questionnaire explores information on two types of healthcare services: inpatient and outpatient care.

3.1. Inpatient Care Utilisation

Inpatient health services refer to whether the older person stayed at least overnight in any health facility in the 12 months before their death. Results indicate that 39% were hospitalised within this period. The percentage is greater for males than females, with almost half (49%) of men and a third (30%) of women availing of such services in the last 12 months of their lives (Table 6.4).

Table 6.4. Inpatient Utilisation Prior to Death by Sex and Age

Inpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who stayed overnight in a hospital or other medical facility in the past year because of an illness or accident in the 12 months before death	48.8	30.2	**	51.3	38.8	33.1	*ns*	39.2
N	*484*	*641*		*125*	*343*	*657*		*1,125*
Mean number of times stayed at least overnight in a hospital prior to death	2.21	2.50	*ns*	2.22	2.10	2.67	*ns*	2.32
N	*198*	*217*		*61*	*139*	*215*		*415*

Inpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Type of facility used the last time hospitalised								
Municipal hospital	13.0	4.0		1.8	18.1	5.4		9.4
District hospital	22.9	5.7		29.5	8.7	13.3		16.0
Provincial or city hospital	24.4	30.9		34.9	29.2	17.6		27.0
Regional hospital	4.8	4.5		1.4	8.1	3.4		4.7
Public or national hospitals (e.g. PGH)	2.4	1.0	*	0.2	2.9	2.0	*	1.8
Public specialty hospitals	0.6	0.1		1.3	0.0	0.1		0.4
Private clinic	3.4	1.0		3.4	3.0	0.9		2.4
Private hospital	28.8	51.2		25.1	30.1	57.3		37.7
Others	0.0	1.6		2.3	0.0	0.0		0.6
N	*197*	*217*		*61*	*139*	*214*		*414*
Who paid the most for the hospitalisation								
Respondent	9.4	5.8		6.4	9.0	8.1		8.0
Spouse	14.7	2.9		14.8	8.5	8.0		10.1
Children	61.6	76.1		62.7	78.5	57.8		67.3
Grandchildren	0.1	7.1	**	0.0	0.8	7.7	*ns*	2.8
Other relatives	12.5	6.5		11.0	3.0	17.9		10.1
Local government fund	1.5	1.2		3.9	0.2	0.6		1.3
Others (pension, etc.)	0.2	0.5		1.3	0.0	0.0		0.3
N	*196*	*216*		*58*	*128*	*197*		*383*
% who availed of PhilHealth benefits	93.0	82.6	*	85.4	91.1	89.1	*ns*	88.9
N	*198*	*217*		*61*	*139*	*215*		*415*
% who availed of private medical or health insurance aside from PhilHealth	14.7	10.1	*ns*	8.9	4.4	26.7	*	13.0
N	*174*	*190*		*51*	*121*	*192*		*364*
% who availed of discounts for senior citizens for medical expenses	95.2	82.9	**	89.1	93.0	88.0		90.3
N	*198*	*217*		*61*	*139*	*215*		*415*

*p < .05, **p < .01, ns = not significant.

PGH = Philippine General Hospital.

Source: Calculated by the DRDF using original LSAHP W2 data.

Amongst those confined in a health facility before their death, confinement occurred about twice within a year, on average, with no significant difference by sex and age. In terms of the healthcare facilities where they received inpatient care services during their last confinement, the majority (59%) reported utilising public health facilities such as barangay health stations, rural health units, and district or community hospitals, where costs are considerably lower than private establishments. The corresponding percentages for confinement in private facilities is lower: 38% for private hospitals, 2% for private clinics, and 1% for other facilities (Table 6.4). Significantly more women than men (52% vs 32%) utilised private hospitals in their last hospitalisation prior to their death. The proportion utilising private health facilities increases with age (from 28% amongst those less than 70 years old to 58% amongst those over 80 years old).

The majority (67%) of older persons' children covered the cost of inpatient care expenses not covered by PhilHealth during the deceased person's last hospitalisation, with this support higher amongst older women than men (76% vs 62%). Grandchildren were the second-highest providers of financial support for women's hospitalisation costs, whilst spouses were the second-highest source for men. The spouse and other relatives are secondary sources of financial support for the hospitalisation of older Filipinos. Only 8% of older Filipinos covered the hospitalisation costs themselves, with the percentage higher for males than females (9% vs 6%). About 9 out of 10 (89%) availed of PhilHealth benefits, either as members or dependents, whilst 13% used other medical or health insurance to pay for their last hospitalisation cost. Almost all senior citizens (90%) utilised their privileges for medical expenses during the mentioned hospitalisation (Table 6.4).

3.2. Outpatient Care Utilisation

Outpatient care utilisation in the 12 months preceding the older person's death was about 42%, with no significant age and gender disparity. In contrast to inpatient care, which public health facilities predominantly provided, more older persons availed of outpatient care in private hospitals (33%), clinics (22%), or other private healthcare providers such as medical missions (3%) for their last outpatient service. Amongst government health services, provincial or city hospitals were the most frequently visited by older people for their last medical care for an illness or accident without an overnight stay, accounting for 16% of visits.

As with inpatient care, physicians (98%) emerged as the health practitioner most often consulted for health problems amongst those who availed of outpatient care in the 12 months leading to their death (Table 6.5).

Table 6.5. Outpatient Utilisation Prior to Death by Sex and Age

Outpatient Utilisation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who received medical care for an illness or accident from any medical facility or practitioner without staying overnight in the 12 months prior to death	44.8	38.8	ns	54.9	37.8	37.5	*ns*	41.7
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Type of facility visited most as an outpatient								
Municipal hospital	14.9	7.1		0.8	21.6	8.7		11.2
District hospital	8.2	5.3		8.8	4.9	7.3		6.8
Provincial or city hospital	15.8	17.1		17.7	22.6	8.1		16.4
Regional hospital	0.4	11.3		16.7	0.9	0.8		5.6
Public or national hospitals	0.9	0.9	*ns*	0.7	1.0	1.0	**	0.9
Public speciality hospitals	0.0	3.9		0.0	4.9	0.0		1.8
Private clinic	25.7	16.9		23.0	17.8	24.4		21.5
Private hospital	32.6	33.4		32.0	24.0	44.5		33.0
Others (medical missions, etc.)	1.4	4.2		0.4	2.4	5.3		2.7
N	*244*	*314*		*88*	*197*	*273*		*558*
Health practitioner seen most often for health problems								
Traditional practitioner	0.0	0.0		0.0	0.0	0.0		0.0
Doctor	99.7	96.4		98.4	98.8	97.1		98.1
Nurse	0.1	2.7	***	1.6	0.2	2.4	*ns*	1.3
Midwife	0.1	0.8		0.0	1.0	0.2		0.4
Barangay health worker	0.0	0.1		0.0	0.0	0.1		0.0
Others	0.1	0.0		0.0	0.0	0.2		0.1
N	*245*	*316*		*89*	*198*	*274*		*561*

**p < .01, *** p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

4. Death Registration and Information from Death Certificates

Information on levels and patterns of mortality by age and sex allows public health institutions to assess the burden of disease in populations. In many high-income countries, the planning and monitoring of public health initiatives benefit substantially from complete and reliable information on deaths, including causes of death. Death reporting through the CRVS is considered the gold standard for collecting such information and is important for tracking progress towards the attainment of health-related United Nations Sustainable Development Goals.

The Philippine government recognises the importance of a well-functioning CRVS system that provides sufficiently representative information on deaths and causes of death for the development of national health and population policies. The country is a signatory to the Regional Action Framework of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), which primarily aims to strengthen the CRVS system and achieve universal registration of births and deaths in the Asia-Pacific region by 2024 (UNESCAP, 2017). Accordingly, the country's CRVS system adheres to the WHO-approved format for recording the sequence of conditions (antecedent, underlying, and other significant conditions) leading to the immediate cause of death.

In the LSAHP, informants were queried about the registration status of the death of the older-person respondent. For those deaths that were registered, we further inquired whether the informant possessed a copy of the death certificate. If a copy was available, permission was sought to capture a picture of the death certificate. From registered deaths with a copy of the death certificate, pertinent information such as marital status, place of death, and the causes of death as determined by a physician were extracted. For cases where no death certificate copy was available, data were obtained directly from the respondent. The following section is based on the mortality data obtained from the death certificates and the reports of informants in the case of those without death certificates.

There is a high level (94%) of death registration amongst the deceased LSAHP respondents. Of those registered, more than half (56%) have a copy of the death certificate, with the percentage higher amongst the males than females (65% vs 48%; Table 6.6).

Striking gender differences in mortality patterns emerged from the information reflected in their death certificates. More males than females were married (53% vs 19%) or in live-in arrangements (7% vs 1%) at the time of their death. Most of the older persons who died were widowed at their time of death (74% for females vs 33% for males). A minority were never married (5%) and were separated, previously had their marriage annulled, or divorced (1%) when they became deceased.

A low prevalence of facility-based deaths, comprising 26% of registered deaths, is shown in Table 6.6. Seven of ten deaths were home based: 60% occurred in the same residence where they were interviewed during Wave 1, and 13% were in a different residence. A negligible percentage (1%) of informants reported that the death took place neither at home nor in a health facility.

Low access to healthcare at the end of life is borne out in the results, with less than half (43%) of older Filipinos seeking the services of a health professional in the week prior to death. Of those who did, almost all (98%) consulted a physician for their health problems.

Table 6.6. Death Registration and Information from Death Certificates by Sex and Age

Death Registration and Information from Death Certificates	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Death registration								
% whose deaths were registered	93.4	95.4	*ns*	95.9	94.4	93.5	*ns*	94.4
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Informant has a copy of dead older person's death certificate	65.1	48.5	*	49.0	58.1	59.5	*ns*	56.4
N	*614*	*803*		*186*	*471*	*760*		*1,417*
Marital status								
Single	5.4	4.9		2.7	6.4	5.4		5.2
Married	52.6	18.7		58.3	32.1	23.2		35.0
Living in	7.3	1.3	***	6.8	5.0	1.5	***	4.2
Separated, divorced, or annulled	1.7	0.8		1.5	2.1	0.1		1.3
Widowed	32.9	74.3		30.8	54.5	69.9		54.4
N	*656*	*858*		*195*	*506*	*813*		*1,514*
Place of death								
At home (Wave 1 residence)	63.2	56.2		61.1	53.8	65.3		59.6
At home (Different from Wave 1 residence)	10.2	16.1		3.8	16.1	16.2		13.3
In a health facility (hospital clinic, etc.)	25.0	26.4	*ns*	32.8	28.5	17.8	*ns*	25.7
Others (e.g. dead on the way to the health facility)	1.6	1.3		2.2	1.6	0.7		1.4
N	*656*	*858*		*195*	*506*	*813*		*1,514*
% who consulted a health professional in the week prior to death	46.9	39.5	ns	53.3	42.7	37.8	*ns*	43.1
N	*484*	*641*		*125*	*343*	*657*		*1,125*
Health professional consulted in the week prior to death								
Traditional practitioner	0.7	0.0		1.4	0.0	0.0		0.4
Doctor	98.9	96.6		93.9	99.6	98.7		97.8
Nurse	0.3	0.3		0.0	0.4	0.4		0.3
Midwife	0.1	0.1	*ns*	0.0	0.1	0.2	*ns*	0.1
Barangay health worker (BHW)	0.0	3.1		4.7	0.0	0.6		1.4
Others	0.0	0.0		0.0	0.0	0.1		0.0
N	*223*	*251*		*75*	*159*	*240*		*474*

*p < .05, **p < .01, *** p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

In LSAHP, causes of death were coded using the 11th revision of the International Classification of Death (ICD-11) per WHO recommendation. Immediate causes of death are summarised in Table 6.7, shown by sex and age group. Respiratory system diseases, heart diseases, and cerebrovascular ailments are the leading causes, together accounting for 43% of all deaths. For males, endocrine-related diseases such as diabetes rank next (4%); for females, deaths were more frequently attributed to conditions associated with frailty or their advanced age (6%). Cancer, digestive system diseases, and genitourinary system diseases show varying prevalence across age groups, with cancer being more common amongst those under 80 (3% amongst those under 70, 5% amongst those aged 70–79). Notably, about one in five mentioned clinical outcomes such as 'cardiac arrest', 'shock', and 'multiple organ failure' rather than a specific underlying disease.

Table 6.7. Immediate Causes of Death by Sex and Age

Causes of Death	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Cancer	3.1	3.5		3.1	5.1	1.4		3.3
Heart disease (heart attack, etc.)	17.6	12.8		14.9	16.9	13.4		15.2
Cerebrovascular ailments (stroke, cerebral thrombosis)	11.2	13.0		22.1	12.2	5.5		12.1
Old age (frailty caused by ageing)	0.8	6.2		0.0	0.2	9.6		3.6
Certain infectious or parasitic diseases	1.7	2.0		2.7	1.5	1.8		1.9
Diseases of the blood or blood-forming organs	0.5	0.1		1.0	0.0	0.2		0.3
Diseases of the immune system	0.0	0.0		0.0	0.0	0.0		0.0
Endocrine, nutritional, or metabolic diseases	4.2	3.8		4.6	3.1	4.6		4.0
Mental, behavioural, or neurodevelopmental disorders	0.0	0.1	*	0.0	0.0	0.1	***	0.1
Diseases of the respiratory system	17.0	13.5		11.4	17.8	14.9		15.2
Diseases of the digestive system	1.1	2.3		4.7	1.1	0.5		1.7
Diseases of the skin	0.0	0.0		0.0	0.1	0.0		0.0
Diseases of the musculoskeletal system or connective tissue	0.1	0.1		0.0	0.1	0.1		0.1
Diseases of the genitourinary system	2.2	1.9		3.7	1.4	1.7		2.1
Injury, poisoning, or certain other consequences of external causes	0.5	3.6		0.0	4.8	0.6		2.1
External causes of morbidity or mortality	0.9	1.8		1.5	2.1	0.3		1.3
COVID-19	0.6	0.6		0.9	0.2	0.9		0.6

Causes of Death	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Symptoms, signs, or clinical findings, not elsewhere classified								
Cardiac arrest	13.7	11.9		4.7	12.9	18.0		12.8
General symptoms (e.g. shock, multi-organ failure)	9.2	3.6	*	4.7	9.0	4.5	***	6.3
Others	0.7	0.4		0.5	0.7	0.5		0.6
Ill-defined causes	8.2	3.9		0.4	5.7	10.0		6.0
Not sure	6.4	14.9		19.0	5.2	11.5		10.8
N	*594*	*778*		*178*	*452*	*742*		*1372*

* $p < 0.05$, *** $p < 0.001$.

Source: Calculated by the DRDF using original LSAHP W2 data.

5. Summary, Conclusions, and Recommendations

Death is an inevitable experience. However, whilst death befalls everyone at the end of their life course, survey data from the LSAHP paints a picture of important heterogeneities in death and dying amongst older persons. Information culled from their kin and their death certification reveals two characteristics that were significant in the period leading to the end of life: family relationships and inpatient care utilisation. Differences between males and females in these characteristics suggest that gender might be a stratifying force through which end-of-life experiences are filtered.

In general, survey data show first that the family forms the centrepiece of older persons' remaining years of life. Most of the reported deaths did not occur at a health facility but in their respective homes, in the company of family members. There is a clear distinction between males and females in terms of which family members play a role in their end-of-life experiences, particularly regarding their living arrangements and caregiving. Whilst it is more common for males to co-reside with and benefit from the care of nuclear family members, namely, their spouse and any of their adult children, older females are more likely to co-reside in a multigenerational household consisting of their adult children and grandchildren during the period leading to their death, with their daughters assuming a central role in their end-of-life care.

Second, data highlight mortality gaps across marital status. In particular, widowed older persons account for the majority of the deceased. The bulk, however, are female; this distinction can be attributed to gender disparities in longevity in which wives tend to outlive their husbands, as well as differences in mean age at marriage. By contrast, a greater share of males was in a partnership (either formally married or cohabiting) by the end of their lives.

Finally, whilst the data reveal a similar level of inpatient and outpatient care utilisation towards the end of life, the differences lie in which type of healthcare facilities are used: public for inpatient care, and private for outpatient care. This signals factors such as cost, convenience, and perceived quality of service offered by each type of facility depending on older persons' needs. On the other hand, the results put a spotlight on older Filipinos' heavy reliance on informal sources of funding for private inpatient health services during the final period of life. This is particularly true for females, for whom confinement in a private health facility in the last 12 months before death is more common, the out-of-pocket costs of which are mostly covered by family members, such as their adult children and grandchildren. Furthermore, insights from death certificates highlight the higher prevalence of home-based deaths than facility-based deaths.

These findings reinforce the call to strengthen public healthcare infrastructure to ensure that older Filipinos have access to quality and affordable services, whether for long-term care for degenerative illnesses or for palliative care towards the end of life. Support programmes for family members are also important: giving them access to care training and financial assistance will allow family members to focus on their caregiving responsibilities. On the other hand, expanding social services for older persons is vital to reducing reliance on family care whilst ensuring a dignified end-of-life experience. Finally, improving death registration will ensure accurate mortality data in aid of better public health planning and policy development.

References

Agree, E.M. and K. Glaser (2009), 'Demography of Informal Caregiving', in P. Uhlenberg (ed.), *International Handbook of Population Aging.* Springer, pp.647–68.

Carr, D. and E.A. Luth (2019), 'Well-being at the End of Life', *Annual Review of Sociology,* 45(1), pp.515–34. https://doi.org/10.1146/annurev-soc-073018-022524

Carr, D., C.B. Wortman, and K. Wolff (2006), 'How Older Americans Die Today: Implications for Surviving Spouses', in D. Carr, R.M. Nesse, and C.B. Wortman (eds.), *Spousal Bereavement in Late Life*. Springer, pp.49–80.

Carr, D. (2012a), '"I Don't Want to Die Like That ...": The Impact of Significant Others' Death Quality on Advance Care Planning', *The Gerontologist,* 52(6), pp.770–81. https://doi.org/10.1093/geront/gns051

Carr, D. (2012b), 'Death and Dying in the Contemporary United States: What Are the Psychological Implications of Anticipated Death?', *Social and Personality Psychology Compass,* 6(2), pp.184–95. https://doi.org/10.1111/j.1751-9004.2011.00416.x

Cruz, G.T., J.N. Natividad, M.L. Gonzales, and Y. Saito (2016), *Aging in the Philippines: Findings from the 2007 Philippine Study on Aging.* Quezon City: UPPI and DRDF.

Cruz, G.T. and C.J.P. Cruz (2019), 'Filipino Older Persons', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.27–46.

Cruz, G.T., C.J.P Cruz, and Y. Saito (2022), 'Is there Compression or Expansion of Morbidity in the Philippines?', *Geriatrics & Gerontology International,* 22(7), pp.511–15. https://doi.org/10.1111/ggi.14398

Cruz, G.T., C.J.P. Cruz, and Y. Saito (2019), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia.

Grande, M.B. (2021, September). Philippines' Civil Registration and Vital Statistics (CRVS) Decade 2015–2021 Mid-decade Assessment [Conference presentation]. First National Convention on Civil Registration and Vital Statistics, 1–3 September, Binangonan, Rizal, Philippines. https://psa.gov.ph/system/files/nccrvs/PM_Session%201-Marizza%20Grande_CRVS%20Mid%20Decade%20Report_FINAL_01Sept2021.pdf

Gjonça, E. and M. Marmot (2005), 'Patterns of Illness and Mortality Across the Adult Lifespan', in M.L. Johnson (ed.), *The Cambridge Handbook of Age and Ageing.* Cambridge University Press, pp.106–20. https://doi.org/10.1017/CBO9780511610714.010

Gu, D., P. Gerland, K. Andreev, N. Li, T. Spoorenberg, G. Heilig, and F. Pelletier (2017), 'Changes in Old-age Mortality since 1950', in Z. Zhao and A.C. Hayes (eds.), *Routledge Handbook of Asian Demography.* Routledge, pp.190–208. https://doi.org/10.4324/9781315148458-11

Land, K.C. and Y. Yang (2006), 'Morbidity, Disability, and Mortality', in R.H. Binstock and L.K. George (eds.), *Handbook of Aging and the Social Sciences* (6th ed.). Academic Press, pp.42–59.

Laguna, E.P. (2019), 'Caring for Older Persons', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.173–92.

Leopold, T. and C.M. Lechner (2015), 'Parents' Death and Adult Well-being: Gender, Age, and Adaptation to Filial Bereavement', *Journal of Marriage and Family,* 77(3), pp.747–60. https://doi.org/10.1111/jomf.12186

Natividad, J. and G. Cruz (2002), A Feasibility Study on the Use of the Panel Design for the Study of the Elderly and the Course of Aging in the Philippines: The Visayan Sample. Report submitted to the CIDS. Quezon City: University of the Philippines.

Omran, A.R. (1971), 'The Epidemiologic Transition: A Theory of the Epidemiology of Population Change', *Milbank Memorial Fund Quarterly*, 49(4), pp.509–38.

Ornstein, K.A., A.S. Kelley, E. Bollens-Lund, and J.L. Wolff (2017), 'A National Profile of End-of-life Caregiving in the United States', *Health Affairs,* 36(7), pp.1184–92. https://doi.org/10.1377/hlthaff.2017.0134

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (2017), 'High-level UN Meeting Strengthens Civil Registration and Vital Statistics Systems in Asia-Pacific', Bangkok, 18 October. *Press release*. https://www.unescap.org/news/high-level-un-meeting-strengthens-civil-registration-and-vital-statistics-systems-asia-pacific

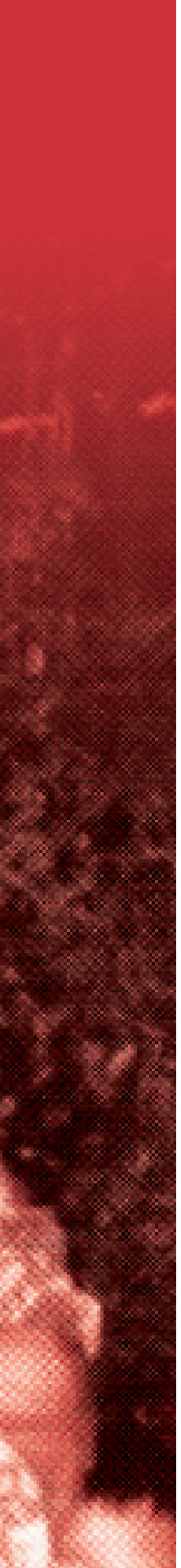
University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation (DRDF) (2022). *The Filipino Elderly: Findings from the 1996 Philippine Elderly Survey.* Quezon City: UPPI and DRDF.

Victor, C. (2010), 'The Demography of Ageing', in D. Dannefer and C. Phillipson (eds.), *The SAGE Handbook of Social Gerontology.* London: SAGE Publications Ltd., pp.61–74.

Warraich, H.J. (2017), *Modern Death: How Medicine Changed the End of Life.* New York: St. Martin's Press.

World Health Organization (2020), *Global Health Estimates 2020: Deaths by Cause, Age, Sex, by Country and by Region,* 2000–2019.

World Health Organization (n.d.), ICD-11 *Implementation*. https://www.who.int/standards/classifications/frequently-asked-questions/icd-11-implementation



Chapter 7

COVID-19 Pandemic Experiences

Mark Ryan B. Paguirigan
Christian Joy P. Cruz

The novel coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a major public health event that has had a profound global impact; the Philippines is no exception. Older people have been particularly vulnerable during the pandemic, facing significant socioeconomic challenges and health risks (Le Couteur, Anderson, and Newman, 2020). In the Philippines, the evolution of pandemic policies has had a mixed impact on older adults. Initially, stringent lockdown measures were implemented to curb the spread of the virus, which, whilst necessary, resulted in heightened isolation and restricted access to essential services, as well as affected the businesses and livelihood (University of the Philippines Population Institute and Demographic Research and Development Foundation, 2020). As policies evolved, there were efforts to balance public health needs with economic and social considerations, but the repercussions for older people have been notable.

Ample evidence has been accumulated on the negative effects of the COVID-19 pandemic amongst older adults. The vulnerability of older people stems from the association of increased age with mortality in patients with COVID-19 (Zhou et al., 2020). Older people are at higher risk of severe outcomes from the disease, leading to heightened anxiety and the need for strict adherence to health protocols. Many older people, particularly those in low-income households, have faced reduced sources of funds or money, exacerbating their financial instability. The restrictions on mobility and social interactions have further contributed to increased loneliness and mental health issues amongst older adults. Besides having one of the longest and strictest lockdowns in the world during the pandemic, the Philippine government's approach has also been described as 'securitised' – that is, one that is characterised by a police-centric approach in managing a public health concern (Hapal, 2021).

These factors underscore the importance of studying the pandemic's impact on older individuals. Thus, comprehensive questions about the pandemic were included in the follow-up survey of the LSAHP. The Wave 2 (W2) survey incorporates specific questions designed to capture the extent of the pandemic's impact on older Filipinos, including the level of COVID-19 infection, hospitalisation, and vaccination amongst this group, their access to healthcare services, activities whilst in isolation, economic well-being, and the support they received from the government and nongovernmental organisations. This chapter presents the results of these inquiries, providing valuable insights into the multifaceted challenges faced by older persons during the COVID-19 pandemic.

1. COVID-19 Infection, Hospitalisation, and Vaccination

Table 7.1 shows the LSAHP survey results on COVID-19 infection, hospitalisation, and vaccination by sex and age. Results reveal that only 3% of surviving older persons have tested positive for COVID-19. Amongst those who have tested positive for the disease, one-fifth have ever been hospitalised (20%) with the level of hospitalisation increasing with advancing age. Based on the Department of Health (DOH) tracker, as of 8 January 2024, there were about 567,000 COVID-19 cases amongst older Filipinos, translating to about 6% of older males and females who tested positive for COVID-19. Amongst those who tested positive for COVID-19, 7% died, with the percentage higher amongst males than females (8% vs 6%; data not shown, calculated by the authors using data from the DOH tracker and population data from the Philippine Statistics Authority).

In the early days of the pandemic, the demographic trend in the COVID-19 infection and mortality skewed towards older people. Owing to their vulnerability, older people or senior citizens aged 60 years and older were amongst those prioritised to receive the COVID-19 vaccine (Paloyo et al., 2021; Rappler, 2021). The rollout began in March 2021 guided by the prioritisation framework of the country's health department, which was aimed at reducing COVID-19-related mortality and mitigating the pressure on the healthcare system (DOH, 2021).

The LSAHP W2 results show that 68% of older Filipinos have been vaccinated against COVID-19, slightly lower than the estimated 70% of the population in the country (or 79,164,840) that were fully vaccinated as of 19 March 2023 (ABS-CBN Investigative and Research Group, 2023). Amongst those vaccinated, 20% have received at least one dose, 39% have received two doses, and 42% have received three doses. However, more than a year after the vaccine rollout, a substantial proportion of older people manifested vaccine hesitancy. Approximately one-third (32%) of older persons have not been inoculated with the COVID-19 vaccine since the start of the mass vaccination campaign. A great majority (82%) of them said that they do not want to be vaccinated (data not shown).

Hesitancy towards vaccines is a global public health problem that negatively affects the achievement of population immunity to COVID-19 (Paul, Steptoe, and Fancourt, 2021; Sallam, 2021). In general, vaccine hesitancy existed before the pandemic, with numerous reasons behind the uncertainty and unwillingness to receive vaccines, such as the perceived risks compared to the supposed benefits (Karafillakis and Larson, 2017), lack of knowledge and awareness (The Lancet Child and Adolescent Health, 2019), and certain religious beliefs (Wagner et al., 2019). In the Philippines, the controversies surrounding previous vaccination campaigns, such as the Dengvaxia scare, may have affected the trust and confidence in vaccines amongst the populace (Mendoza et al., 2021; UPPI and DRDF, 2021). After its introduction in the Philippines, Dengvaxia, a dengue vaccine, has sparked controversy due to findings that it may raise the risk of severe dengue in individuals without a prior dengue infection. Although the vaccine effectively lowers the risk of severe dengue for those with previous infections, it appears to increase the risk of severe disease and hospitalisations in those who have not been previously infected. This controversy led to the suspension of Dengvaxia's sale and distribution, resulting in heightened vaccine hesitancy amongst parents and affecting broader vaccination efforts (Fatima and Syed, 2018). This hesitancy is reflected in a study that showed a massive 61% drop in vaccine confidence; from 93% strongly agreeing that vaccines are important in 2015 to just 32% in 2018 (Larson, Hartigan-Go, and de Figueiredo, 2019).

The national government initially responded to the rise in COVID-19 infections and deaths early on by institutionalising stringent social distancing measures and community quarantine across the provinces. This policy was directed towards vulnerable groups including older persons aged 60 years and over. The Interagency Task Force on Emerging Infectious Diseases (IATF) released Resolution No. 12 asking all senior citizens aged 60 years and older to isolate themselves at home. This was met with various reactions – mostly criticisms calling it a one-size-fits-all policy that failed to consider the heterogeneities in this subpopulation and was thus ageist.

Survey data show that nearly a third of older Filipinos did not agree with the government policy (IATF Resolution No. 12) to ask all senior citizens aged 60 years and older to self-isolate in their homes, commonly referred to as quarantine.

Table 7.1. COVID-19 Infection, Hospitalisation, and Vaccination by Sex and Age

Indicators	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Ever been tested positive for COVID-19	2.8	2.8	*ns*	3.8	1.9	2.5	*ns*	2.8
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Ever been hospitalised because of COVID-19 (amongst those tested positive)	21.5	18.9	*ns*	8.9	33.3	36.9	*	19.8
N	*38*	*72*		*30*	*48*	*32*		*110*
Ever been vaccinated with COVID-19 vaccine	68.8	67.3	*ns*	73.6	68.6	51.4	***	67.8
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Number of doses received								
1	23.7	17.1		19.1	18.1	25.6		19.5
2	40.0	37.8	*ns*	37.6	40.4	36.6	*ns*	38.6
3	36.3	45.1		43.3	41.5	37.8		41.9
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
% who agree with the government's decision (IATF Resolution No. 12) to ask all senior citizens aged 60 years and older to self-isolate in their home, commonly referred to as quarantine	67.4	69.4	*ns*	64.8	71.3	71.8	*ns*	68.7
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

*p < .05, ****p < .01, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

2. Access to Healthcare During the Pandemic

Evidence indicates that delaying medical care can worsen existing chronic and acute conditions and potentially heighten the risks associated with preventable diseases (Czeisler, 2020; Gertler and van der Gaag, 1990). Pursuant to the DOH (2020) memorandum on the continuous provision of health services for senior citizens during the pandemic, the government response to make healthcare accessible for older people includes teleconsultation or telemedicine, house-to-house visits, and consultations at health facilities if the situation permits.

Table 7.2 presents the results on access to healthcare amongst older Filipinos during the COVID-19 pandemic. During the lockdowns that restricted mobility, a small proportion of older Filipinos delayed or cancelled an essential medical treatment (5%) that they needed to have. A similar percentage (5%) delayed or cancelled a non-essential medical treatment that they needed to have. A lower proportion (2%) said they delayed or cancelled a preventative or primary medical treatment. Very few (8%) had any problems accessing medication for their health conditions during the pandemic. Only 4% said their medical condition worsened due to the inability to see a healthcare professional because of the COVID-19 outbreak.

Table 7.2. Access to Healthcare During the COVID-19 Pandemic by Sex and Age

Access to Healthcare	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who delayed or cancelled an essential medical treatment that they needed to have	5.6	4.6	*ns*	4.1	5.1	6.9	*ns*	5.0
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
% who delayed or cancelled a non-essential medical treatment that you needed to have	5.9	4.8	*ns*	3.1	6.8	6.5	*ns*	5.2
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
% who delayed or cancelled a preventative or primary medical treatment that they needed to have	2.1	2.4	*ns*	2.3	2.1	2.7	*ns*	2.3
N	*1343*	*2667*		*1075*	*1731*	*1204*		*4010*
% taking any medications for their health conditions who had any problems with accessing them during the COVID-19 pandemic	9.1	7.6	*ns*	7.6	8.9	8.0	*ns*	8.2
N	*1343*	*2667*		*1075*	*1731*	*1204*		*4010*
% who had a medical condition worsen because they were unable to see a health care professional because of the COVID-19 outbreak	4.9	2.8	*ns*	2.7	3.8	5.2	*ns*	3.5
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

3. Activities of Older Persons During the Pandemic

There is a gendered dimension to the activities undertaken by older people whilst in isolation during the COVID-19 pandemic. More women than men spent more time on hobbies and activities (61% vs 52%), watched more television (50% vs 48%), talked more with close friends and family via phone or video calls (14% vs 7%), exchanged more text messages with close friends and family (6% vs 4%), and used social media and other forms of online entertainment (7% vs 2%) (Table 7.3). Males were more engaged than females in physical activities (40% vs 31%). Older persons belonging to the younger age groups spent more time on hobbies and activities as well as exchanged more text messages with close friends and family compared to those belonging to the older age groups.

Table 7.3. Activities of Older Persons Whilst in Isolation During the COVID-19 Pandemic by Sex and Age

Activities of Older Persons	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Spending more time on hobbies and activities	52.2	60.6	*	59.2	59.8	47.8	*	57.5
Watching more television	48.2	50.3	*	49.4	49.4	50.5	*ns*	49.6
Being physically active	39.5	31.4	*	35.9	34.1	31.0	*ns*	34.3
Talking more with close friends and family via phone or video calls	6.9	13.8	**	12.7	9.8	11.0	*ns*	11.3
Exchanging more text messages with close friends and family	3.7	5.7	*ns*	7.4	3.6	2.2	**	5.0
Using social media and other forms of online entertainment	1.6	7.3	***	6.4	4.8	3.2	*ns*	5.2
Others	17.7	17.2	*ns*	19.6	15.9	15.3	*ns*	17.4
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

*p < .05, **p < .01, ****p < .01, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

4. Economic Well-being of Older Filipinos During the Pandemic

Disruptions in economic activities were very much apparent during the pandemic. The restrictions on mobility hampered the movement of Filipinos, including older persons in one way or another.

Declines and changes in older persons' sources of funds or income were observed during the pandemic. Almost a quarter (23%) said their income from work decreased compared to their pre-pandemic income. Significantly more males than females experienced this change (29% vs 20%; Table 7.4). The age gradient also indicates an expectedly decreasing income from work with advancing age. Almost half (48%) of older Filipinos reported that pension is not a source of their income or support. Very few said their pension decreased during the pandemic, more so amongst males than females (5% vs 1%). One in ten said their income from farming decreased during the pandemic, with significantly more males than females experiencing this decline (13% vs 8%). Income from family businesses and money from children within the country diminished significantly more for the younger cohorts than the older age groups. Most older persons said that assets such as interests from time deposits, savings, and earnings from stocks, as well as properties and real estate rentals were not sources of income or support for them. A great majority also reported that money from children outside the country and money from relatives outside the household were not sources of income for them.

Table 7.4. Changes in the Personal Resources of Older Persons During the COVID-19 Pandemic by Sex and Age

Changes in the Personal Resources During the COVID-19 Pandemic	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Changes to sources of funds or money								
Earnings from work								
Increased	0.9	1.0		1.5	0.8	0.1		1.0
No change	17.5	13.5	**	18.8	14.1	7.7	***	15.0
Decreased	29.3	19.8		33.9	19.0	6.9		23.3
Not a source of income or support	52.2	65.7		45.8	66.1	85.3		60.8
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Pension (e.g. SSS and GSIS)								
Increased	1.1	2.4		2.9	0.8	2.1		1.9
No change	42.3	50.6	**	42.5	47.9	59.5	*ns*	47.6
Decreased	5.2	0.9		2.9	2.5	1.4		2.5
Not a source of income or support	51.4	46.1		51.7	48.8	37.0		48.0
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Interest of time deposits, savings, and earnings from stocks								
Increased	0.1	0.1		0.0	0.1	0.0		0.1
No change	4.3	3.6	*ns*	4.2	3.6	3.4	*ns*	3.8
Decreased	1.2	1.0		0.4	1.6	1.4		1.1
Not a source of income or support	94.5	95.4		95.4	94.8	95.1		95.1
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

Changes in the Personal Resources During the COVID-19 Pandemic	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
From property and real estate rentals								
Increased	0.1	0.4		0.2	0.4	0.2		0.3
No change	4.1	2.1		1.7	3.0	5.3		2.8
Decreased	1.5	0.8	*ns*	1.1	0.7	1.9	*ns*	1.1
Not a source of income or support	94.3	96.7		97.0	96.0	92.6		95.8
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Income from family business (e.g. store, backyard piggery, poultry)								
Increased	1.3	0.4		0.4	1.3	0.3		0.7
No change	6.1	6.6		6.3	7.4	4.3		6.4
Decreased	9.9	12.4	*ns*	15.1	9.8	6.8	*	11.5
Not a source of income or support	82.8	80.6		78.3	81.6	88.6		81.4
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Income from farm								
Increased	0.3	0.4		0.7	0.1	0.2		0.4
No change	16.1	10.6		14.5	11.3	10.9		12.6
Decreased	13.1	8.0	**	9.6	11.0	7.5	*ns*	9.8
Not a source of income or support	70.5	81.0		75.1	77.5	81.4		77.2
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Money from children within the country								
Increased	0.7	2.4		3.0	0.8	1.2		1.8
No change	37.1	41.1		31.6	43.3	50.9		39.6
Decreased	24.5	19.7	*ns*	25.2	20.9	13.4	**	21.4
Not a source of income or support	37.7	36.8		40.2	35.0	34.6		37.1
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

Changes in the Personal Resources During the COVID-19 Pandemic	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Money from children outside the country								
Increased	0.5	1.1		1.1	0.6	0.9		0.8
No change	13.3	12.3		11.8	12.5	15.5		12.7
Decreased	6.8	6.9	*ns*	7.6	7.6	3.4	*ns*	6.9
Not a source of income or support	79.4	79.7		79.5	79.4	80.2		79.6
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Money from relatives outside the household								
Increased	0.9	0.5		0.5	0.3	1.7		0.6
No change	18.4	17.0		16.9	17.6	19.1		17.5
Decreased	7.1	6.2	*ns*	5.0	8.5	5.8	*ns*	6.5
Not a source of income or support	73.6	76.3		77.6	73.7	73.5		75.3
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

*p < .05, **p < .01, ****p < .01, ns = not significant.

GSIS = Government Service Insurance System, SSS = Social Security System.

Source: Calculated by the DRDF using original LSAHP W2 data.

As a response to the consequences of the pandemic, the government implemented the Bayanihan to Heal as One Act (RA 11469), which reallocated budgets for programmes for health and social protection. This includes cash subsidies disbursed to households, amounting from Php5,000 to Php8,000 (USD100 to USD150), and food packs distributed at irregular intervals.

Based on the LSAHP W2 survey, an overwhelming majority (91%) of the older persons reported receiving government support – in cash, in kind, or both – during the pandemic (Table 7.5). About half (51%) of older persons received a combination of in-kind and cash support from the government. Thirty-five percent received in-kind support, whilst five percent reported receiving cash from the government. Nearly a quarter of older persons also reported receiving support from nongovernment or humanitarian organisations. No significant gender or age differences were noted.

Table 7.5. Support Received by Older Persons During the COVID-19 Pandemic by Sex and Age

Support Received During the COVID-19 Pandemic	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Support from the government								
Cash	6.6	4.3		6.4	3.9	4.8		5.1
In-kind	34.5	35.4	*ns*	29.2	39.0	40.5	*ns*	35.1
Both cash and in-kind	49.5	51.9		54.8	50.5	42.8		51.0
Did not receive	9.5	8.3		9.7	6.6	11.8		8.8
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*
Support from nongovernmental organisations or humanitarian agencies								
Cash	0.3	1.3		1.5	0.6	0.3		0.9
In-kind	23.6	20.2	*ns*	18.7	24.0	21.7	*ns*	21.4
Both cash and in-kind	3.0	6.0		4.5	6.1	3.1		4.9
Did not receive	73.1	72.5		75.2	69.3	74.9		72.7
N	*1,343*	*2,667*		*1,075*	*1,731*	*1,204*		*4,010*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP data.

5. Summary, Conclusions, and Recommendations

During the COVID-19 pandemic, a relatively small number of older persons tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This lower infection rate amongst older adults can be attributed to several factors. Older individuals may have taken more stringent precautions to avoid exposure to the virus due to their higher risk of severe outcomes. These precautions included strict adherence to social distancing measures, more frequent use of personal protective equipment such as masks, and greater compliance with stay-at-home orders. The implementation of targeted public health campaigns aimed at older populations, emphasising the importance of vaccination and preventive behaviours, also likely played a significant role.

Despite a significant proportion of older people exhibiting vaccine hesitancy, their access to medical services, such as essential and nonessential medical treatment and preventative or primary care, was unhampered during the pandemic. This behaviour reflects their persistent prioritisation of their health and well-being, even in the face of potential risks associated with visiting healthcare facilities during an outbreak. However, the overall utilisation of healthcare services amongst this subpopulation is generally low, as evidenced by their low awareness and utilisation of other free health services offered to older people (See Chapter 4). Thus, those who continued to receive medical interventions might be those who still had the financial capacity to do so and those who were in greater need of healthcare services.

There was a noticeable gendered dimension to the activities that older people engaged in whilst quarantines and other public health measures were in place. Differences in activities between males and females may be attributed to traditional gender roles, employment patterns, and personal interests during the lockdown periods.

In terms of their economic condition, older persons had limited sources of funds or income but still experienced declines and changes in these sources, contributing to financial strain. A great majority of older Filipinos are no longer working, but almost a quarter said their earnings from work decreased, with more males than females experiencing this reduction. Almost half said that pension was not a major source of income or support, which reflects the low number of older Filipinos who worked in the formal sector – a requirement for receiving a pension from insurance systems. On the other hand, increases in all sources of income during the pandemic were negligible. Despite the economic disruptions caused by the pandemic, finding alternative means of earning did not emerge as a widely adopted strategy amongst older Filipinos.

Notably, almost all older persons received some form of support during this challenging period. This widespread support underscores the importance of government assistance for older persons, ensuring they were not left alone to navigate the difficulties brought about by the pandemic.

Despite the lower infection rates, older adults who did contract COVID-19 faced higher risks of severe complications and mortality. The relative protection of this group from the virus highlights the importance of continued vigilance and targeted health interventions to safeguard vulnerable populations during public health crises.

References

ABS-CBN Investigative and Research Group (2023), COVID-19 Vaccine Tracker – Philippines. https://news.abs-cbn.com/spotlight/multimedia/infographic/03/23/21/philippines-covid-19-vaccine-tracker

Czeisler, M.É. (2020), 'Delay or Avoidance of Medical Care Because of COVID-19–related Concerns – United States', June, *MMWR. Morbidity and Mortality Weekly Report*, 69. https://doi.org/10.15585/mmwr.mm6936a4

Department of Health (DOH) (2020), Interim Guidelines on the Continuous Provision of Health Services for Senior Citizens amid COVID-19 pandemic (Department Memorandum 2020-0384). Manila.

Department of Health (DOH) (2021), National Strategic Policy Framework for COVID-19 Vaccine Deployment and Immunization, 12 January. https://law.upd.edu.ph/wp-content/uploads/2021/05/DOH-Administrative-Order-No-2021-0005.pdf

Fatima, K. and N.I. Syed (2018), 'Dengvaxia Controversy: Impact on Vaccine Hesitancy', *Journal of Global Health,* 8(20), p. 010312. https://doi.org/10.7189/jogh.08.020312

Gertler, P. and J. van der Gaag (1990), 'The Willingness to Pay for Medical Care: Evidence from Two Developing Countries', *The Willingness to Pay for Medical Care: Evidence from Two Developing Countries*. https://www.cabdirect.org/cabdirect/abstract/19911888496

Hapal, K. (2021), 'The Philippines' COVID-19 Response: Securitising the Pandemic and Disciplining the *Pasaway', Journal of Current Southeast Asian Affairs,* 40(2), pp.224–44. https://doi.org/10.1177/1868103421994261

Interagency Task Force for the Management of Emerging Infectious Diseases (2020), Recommendations for the Management of the Coronavirus Disease 2019 (COVID-19) Situation, IATF Resolution No. 12, s.2020, 13 March.

Karafillakis, E. and H.J. Larson (2017), 'The Benefit of the Doubt or Doubts over Benefits? A Systematic Literature Review of Perceived Risks of Vaccines in European Populations', *Vaccine,* 35(37), pp.4840–50. https://doi.org/10.1016/j.vaccine.2017.07.061

The Lancet Child Adolescent Health (2019), 'Vaccine Hesitancy: *A Generation at Risk. The Lancet Child & Adolescent Health,* 3(5), May, p. 281. https://doi.org/10.1016/S2352-4642(19)30092-6

Larson, H.J., K. Hartigan-Go, and A. de Figueiredo (2019), 'Vaccine Confidence Plummets in the Philippines Following Dengue Vaccine Scare: Why It Matters to Pandemic Preparedness', *Human Vaccines & Immunotherapeutics,* 15(3), pp.625–27. https://doi.org/10.1080/21645515.2018.1522468

Le Couteur, D.G., R.M. Anderson, and A.B. Newman (2020), 'COVID-19 Through the Lens of Gerontology', *The Journals of Gerontology: Series A*, 75(9), e119–e120. https://doi.org/10.1093/gerona/glaa077

Mendoza, R.U., M.M. Dayrit, C.R. Alfonso, and M.M.A. Ong (2021), 'Public Trust and the COVID-19 Vaccination Campaign: Lessons from the Philippines as It Emerges from the Dengvaxia Controversy', *The International Journal of Health Planning and Management,* 36(6), pp.2048–55. https://doi.org/10.1002/hpm.3297

Paloyo, S.R., A.B. Caballes, A.M. Hilvano-Cabungcal, and L. De Castro (2021), 'Prioritizing the Vulnerable over the Susceptible for COVID-19 Vaccination', *Developing World Bioethics,* https://doi.org/10.1111/dewb.12327

Paul, E., A. Steptoe, and D. Fancourt (2021), 'Attitudes Towards Vaccines and Intention to Vaccinate Against COVID-19: Implications for Public Health Communications', *The Lancet Regional Health – Europe*, 1. https://doi.org/10.1016/j.lanepe.2020.100012

Rappler (2021), FAST FACTS: Prioritized Groups, Guidelines for COVID-19 Vaccination, 11 March. https://www.rappler.com/newsbreak/iq/things-to-know-prioritized-groups-guidelines-covid-19-vaccination-philippines/

Sallam, M. (2021), 'COVID-19 Vaccine Hesitancy Worldwide: A Concise Systematic Review of Vaccine Acceptance Rates', *Vaccines,* 9(2), Article 2. https://doi.org/10.3390/vaccines9020160

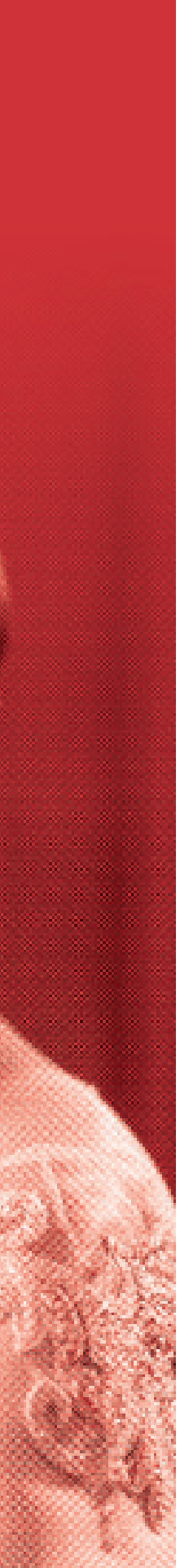
The Lancet Child & Adolescent Health, null. (2019), 'Vaccine Hesitancy: A Generation at Risk. *The Lancet Child & Adolescent Health*, 3(5), p. 281. https://doi.org/10.1016/S2352-4642(19)30092-6

Wagner, A.L., N.B. Masters, G.J. Domek, J.L. Mathew, X. Sun, E.J. Asturias, J. Ren, Z. Huang, I.L. Contreras-Roldan, B. Gebremeskel, and M.L. Boulton (2019), 'Comparisons of Vaccine Hesitancy across Five Low- and Middle-income Countries. *Vaccines,* 7(4), p. 4. https://doi.org/10.3390/vaccines7040155

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation, Inc. (DRDF). (2020). 'COVID-19 and the Older Filipino Population: How Many Are at Risk?' *UPPI/DRDF Research Brief* No. 1, March. https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19-Research-Brief-01.pdf

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation, Inc. (DRDF) (2021), 'Vaccinating the Most Vulnerable Group in the Time of Pandemic: Insights from a National Survey of Older People', *UPPI/DRDF Research Brief* No. 9, April. https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19-Research-Brief-09.pdf

Zhou, F., T. Yu, R. Du, G. Fan, Y. Liu, Z. Liu, J. Xiang, Y. Wang, B. Song, X. Gu, L. Guan et al. (2020), 'Clinical Course and Risk Factors for Mortality of Adult Inpatients with COVID-19 in Wuhan, China: A Retrospective Cohort Study.', *The Lancet*, 395(10229), pp.1054–62. https://doi.org/10.1016/S0140-6736(20)30566-3



Chapter 8

Discussion, Conclusions, and Recommendations

Grace T. Cruz
Christian Joy P. Cruz
Yasuhiko Saito

The ageing of the Philippine population will be the next major demographic challenge for the country. The projected increase in the number and proportion of older adults, coupled with the country's relatively low economic development will create significant challenges in ensuring longer, healthier, and happier lives for this demographic. As the number and relative share of the older population expands, a corresponding increased demand for health services, particularly geriatric care, will strain an already overburdened health system. Additionally, the shifting age structure will impact the pension system, necessitating fiscal adjustments to protect the expanding older population. The traditional family–based support system for the older sector is also expected to be stressed by the changing social landscape. The rising rate of international labour migration, especially amongst women who often serve as primary caregivers for older family members, will likely reduce the availability of familial care. Coupled with declining fertility rates, this trend is expected to diminish the capacity for family-based care of older persons, potentially shifting the responsibility of care from families to the government.

The ageing of the country's population is both an opportunity and a challenge. On the positive side, the increasing life expectancy signals an overall improvement in the health of the general population. Data suggesting an improvement in the quality of incoming cohorts of older Filipinos, marked by their rising education, is expected to translate to increased productivity, resilience, and better quality of life for the incoming generations of older Filipinos. Older people also make active, though often 'invisible,' economic contributions, particularly within their families. This is evident in their roles as grandparents and caregivers for other family members who are also older people. Older women, in particular, often serve as the primary caregivers for older men and their grandchildren, freeing up their children of caring responsibilities, hence, they can participate in the workforce. Additionally, older Filipinos contribute to their communities by engaging in volunteer work in the church or community (Ogena, 2019).

One remarkable factor favouring older Filipinos is their wide intergenerational family network composed of nuclear and extended families. They have an average of about five living children, and the majority of older Filipinos live with at least one child. This is sustained up to the moment of death. Generally, older Filipinos die in the company of their family members, with most receiving care from a family caregiver before their death. Beyond their family, they also receive support, as demonstrated during the COVID-19 pandemic, where almost all older persons reportedly received some kind of support from the government and nongovernment organisations. Perhaps their social advantage helps explain why older Filipinos generally have a positive sense of well-being.

Our W2 findings on the nationally representative sample of older people 60 years at baseline in 2018 highlight the numerous challenges that older Filipinos continue to face 4 years later. They are economically disadvantaged, often relying on unstable sources of income. This is particularly true for women, who depend heavily on remittances from their children, both within the country and abroad, to meet their financial needs. Although women consider pensions their most important source of income, pension levels, including social pensions, remain relatively low. Currently, the government provides a monthly social pension of ₱1,000 (or about $18) per month for vulnerable older individuals. Other indicators of their poverty include reported experiences of hunger and enrolment in government poverty alleviation programmes. Their already precarious economic situation worsened during the COVID-19 pandemic, with reported declines in income from farming, family businesses, remittances, and other sources. Unsurprisingly, most older adults report unmet economic needs, with many facing significant difficulties in covering household expenses.

Related to their economic vulnerability are the many health challenges faced by older Filipinos. This is evident in the high prevalence of physician-diagnosed illnesses, primarily noncommunicable diseases, with 73% having been diagnosed with at least one illness. Older Filipinos report poor oral health and experience pain and falls, amongst others. Functional difficulties are prevalent with a fifth of them reporting at least one ADL difficulty. There are gaps in diet and nutrition. About a fifth reported unintendedly losing 1–3 kg within the 3 months preceding the survey. Some continue to practise risk behaviours like smoking and drinking in their older ages. There is limited utilisation of formal healthcare, including access to healthcare prior to death. Despite RA 7432 (An Act to Maximize the Contribution of Senior Citizens to Nation Building, Grant Benefits, and Special Privileges and for Other Purposes) mandating that all senior citizens 60 years old and over be covered by the national health insurance programme, only 63% reported having health insurance, primarily through PhilHealth. There is a significant level of unmet need for health services, with about a fifth reporting difficulties accessing healthcare services when needed, mostly due to financial constraints.

These gaps are further exacerbated by gender and geographic inequalities. Females are particularly more vulnerable, as shown by their more unstable and informal income sources. Relative to males, a significantly lower proportion of females are currently working, and more of them rely on their children for financial support. Females also display greater functional difficulty in specific instrumental activities of daily living, such as taking care of financial matters and use of transportation, and in Nagi functioning. Morbidity levels are higher amongst older women, with significantly more of them diagnosed with cataracts and angina or myocardial infarction. They also report poorer oral health than males.

Geographic disparities in access to essential social infrastructure, such as main roads, city centres, health facilities, pharmacies, and financial institutions, highlight the diverse challenges faced by older people in the Philippines. Those residing in rural areas and the Visayas and Mindanao regions are particularly vulnerable compared to those living in urban centres like Metro Manila and the rest of Luzon. These inequalities are validated by other data sources, particularly the distribution of health facilities, which are disproportionately concentrated in Metro Manila, with the Visayas and Mindanao relatively underserved. This disparity underscores the uneven infrastructure development across the country, where health, financial, and other essential services are clustered in specific regions and urban centres. The archipelagic terrain exacerbates these challenges, with those in high-altitude areas and remote island groups facing even poorer access to infrastructure and services.

Addressing the multifarious and interrelated economic, social, and fiscal implications of an evolving age structure will require innovative policies and programmes informed by scientific evidence. Bridging identified gaps such as unmet needs for health services is crucial to improving public health and ensuring equitable access to healthcare services. Whilst there have been widespread efforts to improve healthcare delivery through the landmark RA 11223 (Universal Health Care Act), our findings indicate that the maldistribution of key health infrastructure and human resources across and within regions can act as a barrier to healthcare services and can contribute to poorer health outcomes for older persons if left unattended. Whilst the issue of ageing has not been a national priority in the Philippines in the past, the good news is that the government has already put in place certain policies and implemented programmes aimed at making successful ageing a national priority, as outlined below.

Philippine Development Plan (PDP) 2023–2028

Population ageing is indicated in the PDP 2023–2028 as an emerging global trend that can influence the country's development. Thus, the development plan incorporates health strategies that can affect the situation of older people. Specifically, it promotes health-seeking behaviours and the integration of healthcare delivery systems for individuals across life stages. It also supports the establishment of emerging types of healthcare facilities, including geriatric care (NEDA, 2023).

Philippine Plan of Action for Senior Citizens (PPASC) 2023–2028

The most recent iteration of the PPASC was formulated by the National Commission of Senior Citizens and the World Health Organization (WHO). To ensure access to quality healthcare services, the government promotes the development of long-term care systems, including nursing homes, residential care facilities (RCFs), and home care. It seeks to increase accredited RCFs, provide home and community care for senior citizens, and train informal carers (National Commission of Senior Citizens, 2024).

The Department of Health's Wellness Program for Senior Citizens (DOH-HWPSC)

The HWPSC was established to promote and ensure active ageing in accordance with the WHO's focus on global ageing. Healthy ageing, like active ageing, emphasises the need for action across multiple sectors and enables older people to still be a resource to their families, communities, and economies (WHO, 2020). Policy should be framed to improve the functional ability of all older people, whether they are robust, care-dependent, or in between. Being free of disease or infirmity is not a requirement for healthy ageing, as many older adults have one or more health conditions which, when well controlled, have little influence on their well-being (WHO, 2020).

The DOH-HWPSC provides a critical opportunity to promote quality of life amongst older persons and contribute to nation-building through its many interventions such as focused service delivery packages and integrated continuum of quality care, equitable health financing, capacitated health providers, database management and collaboration with relevant stakeholders, amongst others (Domingo, 2024).

Ensuring the overall well-being and happiness of older Filipinos, however, must be based on an enhanced scientific understanding of the critical dynamics associated with population ageing. The interplay of factors between health and related issues such as economic status, pension, and labour force participation implies the need for multidisciplinary research designs to illuminate the factors related to the ageing process towards effective public policy.

Over the years, increasing attention has been drawn to the social determinants of health –factors beyond medical care that can be influenced by social policies and significantly shape health outcomes (Braveman and Gottlieb, 2014). Analysing nonbiological factors such as socioeconomic status, education, and lifestyle factors is crucial, as these determinants significantly affect health in older age and the broader ageing process. At the individual level, social determinants account for as much as 80% of the factors affecting health outcomes (Carter et al., 2024). In contrast, medical care is responsible for only 10% to 15% of preventable mortality in the United States (McGinnis, Williams-Russo, and Knickman, 2002).

The wealth of information provided by the LSAHP W1 and W2 studies offers essential data for tracking indicators that monitor the health and well-being of older Filipinos. This research is not only critical for understanding the challenges faced by the older population sector but also plays a pivotal role in advancing the Sustainable Development Goals. By addressing issues related to health, social equity, and economic stability, the findings contribute directly to efforts aimed at reducing poverty (SDG 1), promoting health and well-being (SDG 3), and fostering gender equality (SDG 5), amongst other goals (United Nations, 2015). Through its comprehensive insights, the LSAHP serves to inform policies and programmes that enhance the quality of life for older Filipinos and support the broader global agenda for sustainable development.

References

Braveman, P. and L. Gottlieb (2014), 'The Social Determinants of Health: It's Time to Consider the Causes of the Causes', *Public Health Reports*, 129 (Suppl 2), pp.19–31.

Carter, B.J., M.Z. Jafry, A.D. Siddiqi, A. Rogova, W. Liaw, L.R. Reitzel (2024), 'Incorporation of Social Determinants of Health into Health Care Practice: A Strategy to Address Health Disparities', in K.S. Ramos (ed.), *Comprehensive Precision Medicine* (1st ed.), pp.363–82. Elsevier. https://doi.org/10.1016/B978-0-12-824010-6.00016-2

Domingo, G.D.P. (2024), Providing Integrated Care to Older People: Health and Wellness Program of Senior Citizens. Presentation at the Nutrition and Healthy Aging Forum (Round Table Discussion), 20 June 2024, Muntinlupa City, Philippines.

McGinnis, J.M., P. Williams-Russo, and J.R. Knickman (2002), 'The Case for More Active Policy Attention to Health Promotion', *Health Affairs,* 21(2), pp.78–93. https://doi.org/10.1377/hlthaff.21.2.78

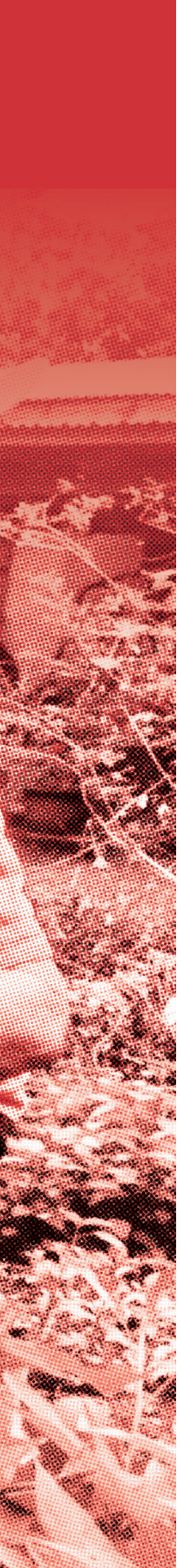
National Commission of Senior Citizens (2024), *Philippine Plan of Action for Senior Citizens 2023–2028.* Manila: National Commission of Senior Citizens.

National Economic and Development Authority (NEDA) (2023), *Philippine Development Plan (PDP)* 2023–2028. Mandaluyong: NEDA.

Ogena, N. (2019), 'Activities, Social Isolation, and Information Technology', in G.T. Cruz, C.J.P. Cruz, and Y. Saito (eds.), *Ageing and Health in the Philippines.* Jakarta: Economic Research Institute for ASEAN and East Asia, pp.129–48.

United Nations (2015), Transforming our World: The 2030 Agenda for Sustainable Development. https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

World Health Organization (WHO) (2020), *Healthy Ageing and Functional Ability*. https://www.who.int/news-room/questions-and-answers/item/healthy-ageing-and-functional-ability#:~:text=WHO%20defines%20healthy%20ageing%20as%20"the%20process%20of, their%20basic%20needs%3B%20learn%2C%20grow%20and%20make%20decisions%3B



Annex A

LSAHP Wave 2 Sampling Design and Weights

Erniel B. Barrios

This section provides an overview of the study design and sampling method used in the 2018 Longitudinal Study on Ageing and Health in the Philippines (LSAHP). The discussion is primarily based on the baseline (Wave 1 or W1) report but also explains how the sampling weights for the Wave 2 (W2) sample were computed.

The LSAHP is a nationally representative longitudinal study of older Filipinos 60 years and over living in households. Older persons living in institutions such as prisons, convents, seminaries, and the like were excluded from the study. The sample for the LSAHP is designed to produce results representative of the whole country, of urban and rural areas separately, and of the National Capital Region (NCR) and each major island grouping – Balance Luzon, Visayas, and Mindanao. The LSAHP has a baseline sample of 5,985 respondents. Data collected provides information on the health status and well-being of older Filipinos.

A follow-up survey was conducted in 2023 (W2) using essentially the same set of questionnaires as at baseline to monitor changes and transitions over time. The follow-up survey yielded a total of 4,011 respondents who were successfully interviewed. The difference of 1,974 respondents from the baseline was attributed to 1,579 deaths, 386 alive but not interviewed, and 9 lost to follow-up. Amongst those 386 not interviewed, 218 relocated or moved out, 112 were not home, and 56 refused to participate in the follow-up interview (Refer to Figure 2.1 for a more detailed breakdown).

1. Sample Design and Implementation

The LSAHP W2 used the same sampling design and visited the same samples from the same location as the W1 sample. The LSAHP W1 employed a multistage sampling design with provinces as the primary sampling units (PSUs), barangays (villages) as the secondary sampling units (SSUs), and older persons as the ultimate sampling units. The 2015 Census of Population served as the sampling frame for the selection of the PSUs and SSUs in determining the sample employed in Wave 1.

The W1 sample was derived as follows. First, provinces were categorised into three strata (low, medium, and high proportion) based on the projected population aged 60 years and over for 2018. These projections were derived from the 2015 census data. An iterative algorithm was then employed to establish the stratum boundaries, aiming to minimise the pooled variance of the estimated totals of indicators across the three strata.

The stratum with low proportion of older persons accounts for 55.2% of the provinces, the medium stratum accounts for 29.2% of the provinces, whilst the stratum with high proportion of older persons comprises 15.6% of the province.

Table A.1. List of Sample Areas and their Corresponding Number of Sample Barangays and Sample Size in Wave 1

Area (Region and City/Province)	No. of Barangays	No. of Older Person Respondents	
		Visited	Interviewed
NCR	17	647	586
Pasig	10	382	349
Muntinlupa	7	265	237
BALANCE LUZON	51	1,945	1,836
Bulacan	23	875	834
Rizal	17	653	607
Occidental Mindoro	5	190	179
Oriental Mindoro	6	227	216
VISAYAS	50	1,875	1,776
Eastern Samar	20	755	708
Samar (Western Samar)	30	1,120	1,068
MINDANAO	49	1,868	1,787
Davao Occidental	10	380	370
Dinagat Islands	7	265	261
Misamis Occidental	32	1,223	1,156
TOTAL	167	6,335	5,985

Source: Calculated by the DRDF using original LSAHP data.

From each stratum, provinces (or city or municipality in the case of NCR[1]) were selected using systematic sampling to induce implicit stratification amongst the major strata (NCR, Balance Luzon, Visayas, and Mindanao). The number of sample provinces and cities is proportional to the number of provinces and cities in the low, medium, or high strata based on the density of older persons in NCR, Balance Luzon, Visayas, and Mindanao, resulting in a self-weighting sample of provinces and cities. The selection of provinces (or cities in the case of NCR) resulted in a sample consisting of two cities in NCR and nine provinces distributed proportionally across Balance Luzon, Visayas, and Mindanao. Table A1 shows the list of these sample provinces and cities.

In the second stage, sample barangays were selected for each sample province and city. The barangays were selected using probability proportional to size, with the proportion of older persons as the size measure. Barangays were further selected with induced implicit stratification for rural and urban areas.

[1] Metropolitan Manila, officially the National Capital Region or NCR, is composed of 16 cities and 1 municipality.

In each sample barangay, a list of all older persons residing in the barangay was obtained from a listing of all older persons 60 years and over residing in the barangay. This list served as the sampling frame for the selection of eligible respondents for each barangay.

In the case of highly populated sample barangays, we limited the listing to an enumeration area (EA). The EA should cover a minimum of three times the maximum sample size for the sample barangay. To facilitate data collection, only one EA was randomly selected per barangay. The EA was selected based on the location and density of older persons.

2. Sample Size

In the baseline survey, the initial target of the study was 6,000 respondents from 167 barangays. The 167 barangays were proportionally distributed across 11 provinces and cities selected in the first stage (PSUs). However, to give allowance for possible attrition, nonresponse, and refusals based on the 2007 PSOA nonresponse rate, the survey targeted a sample of 6,335 older persons.

In drawing the sampling frame, we limited the older persons to one per household. In the case of more than one older person per household, we randomly selected one older person per household to be included in the sampling frame. We then organised the sampling frame by three age groups: 60–69, 70–79, and 80 and above. The sample was selected proportionally to the size of the age group based on the sampling frame for each barangay. To ensure enough respondents in the older age groups in the succeeding rounds of the survey, we oversampled the number of respondents in the age groups 70–79 and 80 and over by a factor of 2 and 3, respectively.

After determining the sample size per age group for each barangay, the ultimate sampling units (the units selected at the final stage in a multistage sample design) or the older person respondents were drawn using systematic random sampling from each of the three age groups based on the listing of older persons (sampling frame). The sample selection was conducted centrally, meaning the list of older persons in each barangay was sent to the central office, where the sample respondents were drawn. This centralised approach ensured a standardised and unbiased selection procedure. The list of selected sample respondents was then returned to the field.

The sampling procedure did not allow for replacement samples because the sample already accounted for the expected nonresponse per barangay. In drawing the baseline sample, a 5% nonresponse rate was assumed, based on the results of a previous similar study, the 2007 Philippine Study of Ageing (PSOA) (Cruz et al., 2016).

Table A1 provides the distribution of the number of barangays and the number of respondents visited and interviewed for each sample area during the baseline survey. A total of 6,335 older persons (older persons) were visited, of which 5,985 completed interviews, resulting in a completion rate of 94.5%. Table A2 presents the status of Wave 1 respondents during the Wave 2 visits. A total of 1,579 respondents, or 26.4%, had died; 218 cases, or 3.7%, had moved out; 121 cases, or 2.0%, were not home or could not be located; and 56 cases, or 1.0%, refused the follow-up interview.

Table A.2. Comparison of Sample Sizes Between Wave 1 and Wave 2

Area (Region and City/ Province)	No. of Older Persons						
	Wave 1	Wave 2					
		Alive				Dead	Lost to Follow-up
		Respon-dents	Moved Out	Not at Home	Refusal		
NCR	586	399	31	17	7	130	2
Pasig	349	244	17	10	4	73	1
Muntinlupa	237	155	14	7	3	57	1
BALANCE LUZON	1,836	1,231	79	48	33	440	5
Bulacan	834	562	33	24	13	199	3
Rizal	607	408	35	8	8	146	2
Occidental Mindoro	179	112	7	10	7	43	0
Oriental Mindoro	216	149	4	6	5	52	0
VISAYAS	1,776	1175	73	28	7	492	1
Eastern Samar	708	461	25	21	2	199	0
Samar (Western Samar)	1,068	714	48	7	5	293	1
MINDANAO	1,787	1,206	35	19	9	517	1
Davao Occidental	370	247	7	6	3	107	0
Dinagat Islands	261	188	8	6	0	59	0
Misamis Occidental	1,156	771	20	7	6	351	1
TOTAL	5,985	4,011	218	112	56	1,579	9

Source: Calculated by the DRDF using original LSAHP data.

3. Sampling Weights

To ensure that the results of the study will be representative at the national level and for urban–rural areas, sampling weights are required for analysis. Recall that the samples were selected in three stages: (i) selection of provinces (PSUs), (ii) selection of barangays (SSUs), and (iii) selection of eligible respondents or older persons (USUs). The selection of PSUs was done with stratification and proportional allocation; hence, the sample PSUs are self-weighting. The selection of USUs was done using systematic sampling, so eligible respondents have equal weights within the sample barangay. The selection of barangays, however, was done with probability proportional to the estimated total number of older persons based on the 2015 census. Thus, the sampling weights will vary only across sample barangays. The basic weights are the inverse of inclusion probabilities of the sample barangays:

$$W_i = \frac{1}{\pi_i}$$

where $\pi_i = P[barangay\ i\ is\ included\ in\ the\ sample\ of\ 167\ barangays]$,

$i = 1,2, \ldots, 167.$

Weights were then adjusted as a result of actual sample selection. Two sets of weights are provided in the data. The first set of weights was adjusted to account for the differences between frame information and the actual characteristics of the sample barangays (Wi^1).

The second set of weights (Wi^2) further accounts for differences between frame information and the actual characteristics of the sample barangays with disaggregation by implicit strata – that is, by the rural–urban classification of barangays and by the age group (60–69, 70–79, and 80 and over) of older persons. Weight 1 is adjusted design weights whilst Weight 2 is adjusted design weights with rural–urban breakdown (based on implicit stratification into rural–urban areas).

4. Weight 1

To compute for Wi^1, the sample size was corrected first. The corrected sample size accounts for the oversampling of age groups 70–79 and 80 and over. Thus, the corrected sample size is computed as follows:

$$Adj\ n_i = n_{i1} + \frac{n_{i2}}{2} + \frac{n_{i3}}{3}$$

where ni_1 is the actual sample size in barangay i amongst 60–69-year-old older persons, ni_2 is the actual sample size in barangay i amongst 70–79-year-old older persons, and ni_3 is the actual sample size in barangay i amongst 80-year-old and over older persons.

The original weights (Wi) were then adjusted as follows:

$$Adj\ W_i = W_i * \frac{OP}{FOP_i} * \frac{n_i}{Adjn_i}$$

where *OP*i is the estimated total number of older persons in the barangay at the time of the survey, *FOP*i is the total number of older persons in the barangay based on the frame (2015 census), n_i is the target sample size in barangay i, and Adj n_i is the corrected sample size (actual) after oversampling is considered.

Since the frame was based on the 2015 census, the weights were adjusted further to sum up to the projected older persons in 2018, as follows:

$$Adj\ W_i^{OP} = Adj\ W_i * \frac{Projected\ OP\ in\ 2018}{\sum_i Adj\ W_i}$$

The weights from Adj Wi^{OP} are at the barangay level; hence, respondent-level weight was computed as follows:

$$W_i^1 = \frac{Adj\ W_i^{OP}}{Actual\ n_i}$$

where Actual ni is the actual number of sample older persons enumerated in barangay i.

Wi^1 can be used to estimate incidence amongst the older persons. The weights can also be standardised to sum up to the total sample size, which will facilitate the interpretation of descriptive statistics as well as modeling. Furthermore, W^1 are the same as in W1.

5. Weight 2

Weight 2 in W2 was computed with the actual outcomes of the survey operation in Wave 2. These weights were computed to consider disaggregated estimates from implicit stratification in terms of rural–urban areas and by age group (60–69, 70–79, and 80 and over). W^{2R}_{ij} is defined as the weight amongst respondents of age group j (1 for 60– 69, 2 for 70–79, 3 for 80 and over) in barangay i classified as *R* (Rural or Urban). In computing W^{2R}_{ij}, the original weight was distributed into the age groups based on the actual number of eligible respondents in the age group as follows:

$$AdjW_{ij}^{R} = W_i * \frac{OP_{ij}^{R}}{OP_{i}^{R}}$$

where Wi is the original weight,

OP^{R}_{ij} is the actual number of older persons interviewed from age group j in barangay i classified as *R*, and OP^{R}_{i} is the total number of older persons interviewed in barangay i classified as *R*.

We further adjusted the weights to conform to the projection of total older persons in each age group by rural–urban residence as follows:

$$AdjW_{ij}^{2R} = AdjW_{ij}^{R} * \frac{Projected\ OP\ in\ 2020_{j}^{R}}{\sum_i Adj\ W_{ij}}$$

Adj W^{2R}_{ij} totals to projected (2020) rural–urban older persons by age group (60–69, 70– 79, and 80 and over).

The weights from Adj W^{2R}_{i} are at the barangay level; hence, respondent-level weights were computed as follows:

$$W_{ij}^{2} = \frac{AdjW_{ij}^{2R}}{Actual\ n_{ij}}$$

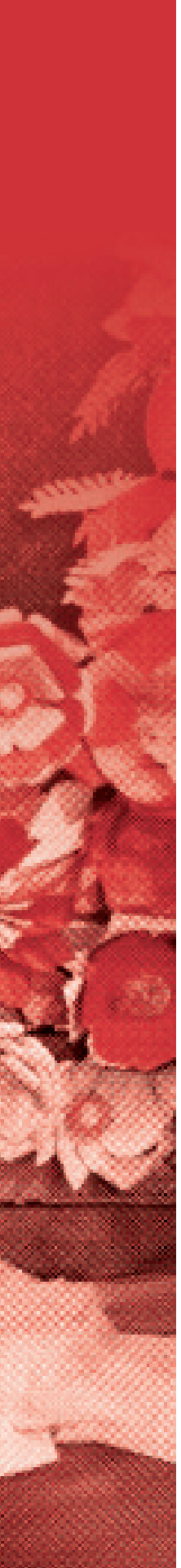
These weights can be standardised to sum up to the total sample size to facilitate the interpretation of descriptive statistics as well as modeling.

The W1 report used Weight 1 (without the urban–rural adjustment). The Wave 2 report used Weight 2 (with the urban–rural adjustment). It should be noted that the Wave 2 weight also considered the oversampling of the age groups 70–79 by a factor of 2, and 80 and older by a factor of 3 at baseline and the attrition.

References

Cruz, G.T., J.N. Natividad, M.L. Gonzales, and Y. Saito (2016), *Aging in the Philippines: Findings from the 2007 Philippine Study on Aging.* Quezon City, Philippines: University of the Philippines Population Institute and Demographic Research and Development Foundation.


Women's
Day



Annex B

Creation of the Wealth Index for the LSAHP Wave 2 Survey

Maria Paz N. Marquez

Measuring wealth or economic status in household surveys is essential for understanding socioeconomic variations in health and education outcomes amongst different subgroups of the population. Examining the economic situation of an individual, household, geographic area, or country is particularly important since one of the United Nations' Sustainable Development Goals (SDG) is to eradicate extreme poverty in all its forms by 2030 (United Nations, 2015).

Traditionally, wealth and economic status are measured using data on income and consumption expenditures. However, collecting such data is often challenging as it entails an exhaustive list of survey items requiring extensive effort and time from survey respondents, interviewers, data processors, and analysts (Rutstein and Johnson, 2004).

An alternative approach to measuring economic status is the wealth index, which originated from the study of Filmer and Pritchett (1999), that applied principal component analysis (PCA) on asset ownership data to construct an asset index, even in the absence of survey questions on income and expenditures. Rutstein and Johnson (2004) later adopted this methodology to develop a wealth index for the Demographic and Health Survey (DHS) program. This DHS wealth index, also known as the wealth quintile, divides all households covered in a survey into five groups, ranging from 1 (lowest quintile or the poorest) to 5 (highest quintile or the wealthiest).

Since its development in the late 1990s, the wealth index has been widely used in various household surveys beyond the DHS. These include the Multiple Indicator Cluster Surveys (MICS) conducted by the United Nations Children's Fund (UNICEF) to collect data on children and women worldwide, and the Young Adult Fertility and Sexuality Study (YAFS) consisting of large-scale nationally and regionally representative surveys on Filipino youth conducted by the University of the Philippines Population Institute since 1982. The wealth index approach has also been adopted in ageing research to assess the associations between economic status and various health outcomes amongst older people, such as health symptoms, sensory impairment, functional limitation, and disability in Cambodia (Zimmer, 2008), self-rated health and activities of daily living in Thailand (Sakunphanit and Prasitsiriphon, 2021), and frailty in India (Saravanakumar et al., 2022).

The wealth index serves as a proxy measure of the economic status of households where survey respondents reside. It is a composite index that incorporates information on asset variables that are easily collected in household surveys. The construction of the LSAHP wealth index followed the procedure outlined by Rutstein (n.d.).

The first step involved reviewing the LSAHP questionnaire and data to compile an exhaustive list of variables that best utilise the available information in the survey. Appendix Table B.1 lists the asset variables identified in this initial step. These variables were selected for their ability to distinguish households in terms of wealth or economic status. Two variables, the presence of a domestic helper in the household and being a recipient of the Pantawid Pamilyang Pilipino Program (4Ps), were added to adapt to the local context, although they are not typically used in DHS data. Variables such as the experience of hunger in the past 3 months were initially considered but were deemed inappropriate as they represent outcomes rather than indicators of household wealth.

Table B.1. List of Asset Variables Included in the Creation of the LSAHP Wealth Index

	Asset Variables	Categories
1	**Presence of a domestic helper in the household**	• Yes • No
2	**Type of building/house**	• Single house • Duplex • Apartment/accesoria/condominium/townhouse • Other housing unit
3	**Main material of the roof**	• Strong materials • Light materials • Salvaged/makeshift materials • Mixed but predominantly strong materials • Mixed but predominantly light materials • Mixed but predominantly salvaged materials • Not applicable
4	**Main material of the outer wall**	• Strong materials • Light materials • Salvaged/makeshift materials • Mixed but predominantly strong materials • Mixed but predominantly light materials • Mixed but predominantly salvaged materials • Not applicable
5	**Main material of the floor**	• Earth/sand • Dung • Wood planks • Palm/bamboo • Parquet or polished wood • Vinyl or asphalt strips • Ceramic tiles • Cement • Carpet • Marble • Others
6	**Tenure status of housing unit and lot**	• Own house and lot or owner-like possession of house and lot • Rent house/room including lot • Own house, rent lot • Own house, rent-free lot with the consent of the owner • Own house, rent-free lot without the consent of owner • Rent-free house and lot with the consent of owner • Rent-free house and lot without the consent of owner • Not applicable
7	**Presence of electricity**	• Yes • No

	Asset Variables	Categories
8	**Ownership of:** a. Car/Jeep/Van b. Motorcycle/Tricycle c. Motorized boat/Banca d. Aircon e. Washing machine f. Stove with oven/Gas range g. Refrigerator/Freezer h. Personal computer/Laptop i. Cellular phone/Mobile phone j. Landline/Wireless telephone k. Audio component/Stereo set l. Karaoke/Videoke/Magic sing m. CD/VCD/DVD player n. Television o. Radio/Radio cassette player p. Internet	• Yes • No
9	**Main source of drinking water**	• Piped into dwelling • Piped to yard/plot • Piped to neighbour • Public tap/stand pipe • Tubed well/borehole • Protected dug well • Unprotected dug well • Protected spring • Unprotected spring • Rainwater • Cart with small tank • Refilling station • Surface water • Bottled water • Others
10	**Main source of water for other uses**	• Piped into dwelling • Piped to yard/plot • Piped to neighbour • Public tap/stand pipe • Tubed well/borehole • Protected dug well • Unprotected dug well • Protected spring • Unprotected spring • Rainwater • Tanker truck • Surface water • Others

	Asset Variables	Categories
11	**Type of toilet facility**	• Flush to piped sewer system • Flush to septic tank • Flush to pit latrine • Flush to somewhere else • Flush to don't know where • Ventilated improved pit latrine • Pit latrine with slab • Pit latrine without slab/ open pit • Composting toilet • Bucket toilet • Hanging toilet/ hanging latrine • No facility/bush/field • Other
12	**A household member is a recipient of the Pantawid Pamilyang Pilipino Program (4Ps)**	• Yes • No

The selected variables were first transformed into indicator variables, with a value of 1 assigned if the asset or amenity was present in the household, and 0 if absent. Variables with more than two categories were converted into separate indicator variables for each category. For instance, the main source of drinking water, which has 15 categories, was converted into 15 indicator variables. This process resulted in 97 indicator variables, though some were later excluded due to minimal variation amongst LSAHP households. As an example, unprotected dug wells as a source of drinking water were excluded from the PCA for urban households.

A wealth score was computed for each household by summing the weighted scores of each indicator variable. The weights to be applied for each variable were derived from the factor scores of the first principal component generated in principal component analysis (PCA), a data reduction technique that identifies underlying patterns of association amongst a set of variables. Following the methodology of Rutstein and Johnson (2004) and Rutstein (2008), the first principal component was used as it extracts the largest amount of common information from all asset variables.

Recognising that some variables indicate different levels of wealth in urban versus rural areas (e.g. ownership of poultry may be positively associated with wealth in rural areas where it is an asset for livelihood, but negatively associated in urban areas where limited space and availability of other sources of income may reduce its economic significance), separate wealth scores for urban and rural households were initially generated. These were then combined into a national wealth score using ordinary least squares (OLS) regression. This approach allows for assigning different weights based on the type of residence and addresses the concern regarding urban bias in the wealth index due to the greater availability of publicly provided services such as electricity and piped water in urban areas compared to rural areas (Rutstein, 2008).

The resulting national wealth scores for each household were then ranked and divided into five equal parts, weighted by the product of the dataset weight and the number of household members. The resulting wealth index thus classifies households into quintiles ranging from the lowest quintile (Code 1), representing the poorest 20% of the households, to the highest quintile (Code 5) representing the wealthiest 20%. The wealth index was validated by examining its association with variables strongly associated with economic status according to existing studies, such as the experience of hunger in the past 3 months.

The same method and set of variables used to create the wealth index in W1 of the LSAHP survey was employed for W2. This consistency in wealth index construction enables a comparison of changes in household economic status from the baseline period in 2018–2022 when the follow-up survey was conducted, thereby assessing economic mobility during this period.

References

Filmer, D. and L. Pritchett (1999), 'The Effect of Household Wealth on Educational Attainment: Evidence from 35 Countries', *Population and Development Review,* 25(1), pp.85–120.

Rutsein, S.O. (n.d.), Steps to Constructing the New DHS Wealth Index. https://dhsprogram.com/programming/wealth%20index/Steps_to_constructing_the_new_DHS_Wealth_Index.pdf

Rutstein, S.O. (2008), *The DHS Wealth Index: Approaches for Rural and Urban Areas.* Calverton, Maryland: Macro International. https://dhsprogram.com/pubs/pdf/WP60/WP60.pdf

Rutstein, S.O. and K. Johnson (2004), 'The DHS Wealth Index', *DHS Comparative Reports* No. 6.

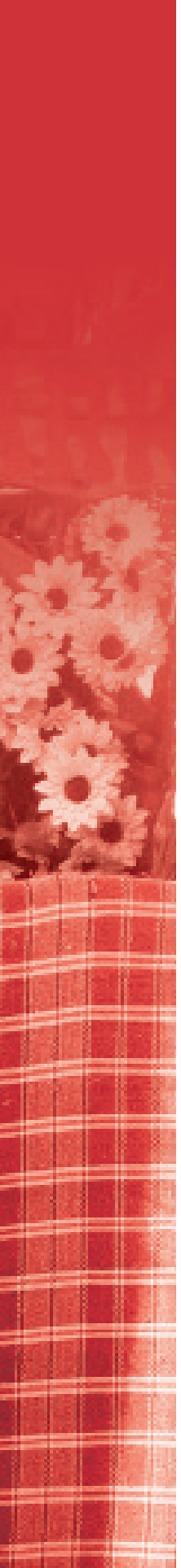
Calverton, Maryland: ORC Macro. https://dhsprogram.com/pubs/pdf/cr6/cr6.pdf

Sakunphanit, T. and O. Prasitsiriphon (2021), 'Associations of Wealth with Health Status in the Thai Older Persons', *Journal of Health Science,* 30(4), pp.690–705. https://thaidj.org/index.php/JHS/article/view/10615/9348

Saravanakumar, P., A. Balachandran, T. Muhammad, D. Drishti, and S. Srivastava (2022), 'Wealth Disparity and Frailty Among Community-dwelling Older Adults in India. *BMC Public Health*, 22(1), Article number 2123. https://doi.org/10.1186/s12889-022-14434-9

United Nations (2015), Transforming our World: The 2030 Agenda for Sustainable Development. https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

Zimmer Z. (2008), 'Poverty, Wealth Inequality, and Health Among Older Adults in Rural Cambodia', *Social Science & Medicine* (1982), 66(1), pp.57–71. https://doi.org/10.1016/j.socscimed.2007.08.032



Annex C

Supplementary Tables

Table 8.2. Attitudes and Beliefs by Sex and Age

Attitudes and Beliefs	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who agree with the following statements:								
It is the child's duty to support and take care of older/aged parents.	87.8	88.3	*ns*	85.5	90.0	91.5	*ns*	88.1
It is acceptable for someone in their 60s or older to fall in love.	35.5	13.2	***	23.7	20.2	17.9	*ns*	21.5
It is acceptable for someone in their 60s or older to (re) marry if they find a suitable partner.	28.1	11.5	***	19.6	17.3	11.5	*ns*	17.7
It is acceptable for children who looked after their parents to inherit larger portions of their estate when they pass away	45.8	38.3	*ns*	40.9	40.8	42.8	*ns*	41.1
It is better for the older parent to live with a daughter than with a son.	57.7	67.9	*	60.4	67.6	66.4	*ns*	64.1
Men should work for the family, and women should stay home and take care of the household.	65.9	62.8	*ns*	60.4	66.4	69.3	*ns*	64.0
It is the parents' duty to do their best for their children even at the expense of their own well-being.	88.9	88.3	*ns*	88.3	88.5	89.5	*ns*	88.6
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
Best living arrangement for older person according to respondent								
Live by themselves	24.5	17.9		17.7	23.1	20.9		20.4
Live by themselves but near one or more children	42.1	39.3		42.6	40.3	31.8		40.3
Rotate residence among children	5.9	4.0	*	4.2	5.3	4.6	*ns*	4.7
Live with a son	10.5	7.1		9.4	7.2	8.6		8.4
Live with a daughter	13.9	28.0		22.7	21.3	27.9		22.8
Others	3.2	3.6		3.3	2.8	6.1		3.5
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 9.1. Activities by Sex and Age

Activities	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% of older person who do the following activities daily:								
Listens to radio	21.1	22.1	*ns*	20.9	22.3	22.7	**	21.7
Reads newspapers, magazines, or books	3.9	2.9	*ns*	4.0	2.8	2.4	*ns*	3.3
Watches TV	49.8	53.0	*ns*	52.2	54.9	43.6	*	51.9
Physical exercises	46.4	43.4	*ns*	42.2	49.5	38.2	*	44.5
Gardening	23.1	28.3	*ns*	31.6	24.2	18.5	***	26.4
Hangout with friends and neighbours	0.1	0.1	**	0.1	0.1	0.1	**	0.1
% of older person who do the following activities at least once a month:								
Watches movies outside the house	0.5	0.7	**	0.4	1.0	0.1	***.	0.6
Attend social activities	23.0	21.3	*ns*	25.0	23.4	10.6	***.	21.9
Gambling for leisure	2.7	0.9	*	2.2	1.2	0.7	*	1.5
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 9.2. Religious Activities by Sex and Age

Religious Activities	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who performs the following activities:								
Attends religious services outside the home	59.0	73.8	***	74.5	72.4	43.4	***	68.4
Attends religious activities outside the home (prayer meeting, Bible studies, etc.)	16.7	29.0	***	25.6	27.3	15.3	*	24.5
Prays alone or privately in places other than a public place of worship	38.1	58.9	***	49.9	54.2	48.1	*ns*	51.3
Performs religious activities at home with other family members	11.3	21.9	***	19.3	17.2	16.9	*ns*	18.1
Watches or listens to religious activities through TV or radio	33.7	43.5	***	39.0	42.7	35.8	*ns*	39.9
Reads the Bible or any religious materials	12.8	28.6	***	23.9	24.3	16.8	*ns*	22.9
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% who are currently members of any religious group or organisation	6.2	13.6	***	12.7	11.2	5.8	*ns*	10.9
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
% who said religion is very important in their life	64.3	82.3	***	75.4	74.3	80.4		75.6
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by DRDF using original LSAHP W2 data.

Table 9.3. Membership in Organisations by Sex and Age

Membership in Organisations	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who are members of any type of non-religious organisations	20.1	15.8	*ns*	20.3	16.8	11.5	*ns*	17.4
N	*1,342*	*2,667*		*1,075*	*1,730*	*1,204*		*4,009*
Types of organisations								
Business professional or farm associations	20.0	21.5	*ns*	31.3	10.7	10.8	*	20.9
Political groups	2.7	0.5	*ns*	2.3	0.7	0.2	*ns*	1.5
Community centres or social or recreational clubs	9.0	7.1	*ns*	8.7	8.6	1.8	*ns*	7.9
Clan associations	1.8	1.6	*ns*	1.3	1.8	3.1	*ns*	1.7
Organisations of retired older persons	24.4	19.0	*ns*	18.7	21.2	32.7	*ns*	14.4
% who are engaged in any volunteer work in church or community	23.6	26.1	***	27.1	24.4	17.9	*ns*	25.0
N	*258*	*326*		*199*	*261*	*124*		*584*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 9.4. Loneliness Indicators by Sex and Age

Loneliness	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Feels lack of companionship								
Always	2.6	3.7		3.9	2.7	3.0		3.3
Fairly often	9.3	6.7		9.6	4.9	9.7		7.6
Occasionally	16.1	16.5	*ns*	14.8	17.3	18.8	*ns*	16.3
Rarely	30.7	30.6		28.1	32.9	32.5		30.6
Never	41.2	42.6		43.6	42.2	36.1		42.1
Feels left out								
Always	1.3	1.6		1.8	0.8	2.7		1.5
Fairly often	14.5	4.3		4.1	4.7	4.5		4.4
Occasionally	11.9	13.4	*ns*	14.3	10.6	15.1	*ns*	12.8
Rarely	32.1	24.7		26.0	28.7	28.5		27.5
Never	50.2	56.0		53.8	55.2	49.1		53.8
Feels isolated from others								
Always	1.8	0.7		0.6	1.3	2.5		1.1
Fairly often	7.2	4.3		5.9	4.5	6.0		5.4
Occasionally	9.2	11.3	*ns*	10.8	10.1	10.7	*ns*	10.5
Rarely	32.7	24.9		27.0	28.8	27.1		27.8
Never	49.1	58.9		55.6	55.3	53.7		55.2
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 9.5. Social Isolation from Relatives not Co-residing with Older Person by Sex and Age

Social Isolation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who do not have any relatives to see or hear from at least once a month	5.6	5.9	*ns*	4.2	7.1	7.4	*ns*	5.8
% who do not have any relatives whom they feel at ease with that the older person can talk about private matters	23.6	19.1	*ns*	22.1	17.1	28.6	*ns*	20.8
% who do not have any relatives whom they feel close to such that the older person could call on them for help	16.9	15.5	*ns*	17.0	13.9	19.6	*ns*	16.0
N	*1,170*	*2,248*		*1,041*	*1,569*	*808*		*3,418*
% who never see or hear from relatives with whom older person has the most contact	6.3	4.8	*ns*	4.0	6.3	6.9	*ns*	5.3
% who never get consulted when one of the relatives has an important decision to make	14.7	10.3	*	11.5	12.2	12.4	*ns*	11.9
% who never get to talk with any of the relatives when older person has an important decision to make	15.6	13.1	*ns*	12.2	14.7	19.0	*ns*	14.1
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 9.6. Social Isolation from Friends by Sex and Age

Social Isolation	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who do not have any friends to see or hear from at least once a month	5.7	4.5	*ns*	2.8	4.8	13.8	***.	5.0
% who do not have any friends whom they feel at ease with that the older person can talk about private matters	24.0	24.2	***	21.9	22.7	37.4	*ns*	24.1
% who do not have any friends whom they feel close to such that the older person could call on them for help	23.0	23.2	*ns*	21.3	21.3	36.5	***	23.1
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*
% who never see or hear from friends with whom older person has the most contact	7.3	4.9	*ns*	3.7	5.8	13.7	*ns*	5.8
% who never get consulted when one of the friends has an important decision to make	16.4	16.3	*ns*	13.4	17.5	23.6	*ns*	16.3
% who never get to talk with any of the friends when older person has an important decision to make	18.4	16.4	***	12.5	19.6	26.8	*	17.2
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*
Satisfaction with the level of contact with friends								
Very satisfied	5.7	9.0		6.7	9.2	6.9		9.0
Satisfied	85.6	82.6		86.5	81.7	80.1		82.6
Unsatisfied	6.1	6.4	*ns*	4.9	7.3	8.0	*ns*	6.4
Very unsatisfied	0.4	0.5		0.7	0.2	0.7		0.5
Not sure	2.2	1.5		1.3	1.6	4.4		1.5
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by DRDF using original LSAHP W2 data.

Table 9.7. Life Satisfaction by Sex and Age

Life Satisfaction	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Current life satisfaction								
Very satisfied	47.6	50.9		51.9	47.7	48.2		49.7
Somewhat satisfied	45.1	43.7	*ns*	41.0	46.5	48.4	*ns*	44.2
Not satisfied	7.3	5.4		7.0	5.8	3.4		6.1
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*
% who feel that their family, relatives, or friends are willing to listen when they need to talk about their worries or problems								
A great deal	8.3	10.3		11.4	8.6	6.2		9.6
Quite a bit	46.4	53.3		50.3	51.1	50.7		50.7
Some	22.9	21.7	*ns*	24.0	19.7	23.4	*ns*	22.1
Very little	13.1	7.8		8.3	11.8	8.7		9.6
Not at all	2.7	2.0		2.5	2.0	2.1		2.3
Keep to myself	4.1	3.9		2.6	5.3	4.5		4.0
N	*1,171*	*2,248*		*1,041*	*1,570*	*808*		*3,419*

ns = not significant.

Source: Calculated by DRDF using original LSAHP W2 data.

Table 9.8. Use of Information Technology by Sex and Age

Information Technology	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who have access to internet	14.5	22.0	*	26.0	17.2	6.9	***	19.2
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
Mean number of hours of internet access per day	2.02	2.21	*ns*	2.18	2.09	2.31	*ns*	2.15
N	*194*	*446*		*306*	*266*	*68*		*640*
% with social networking account	76.6	93.7	**	91.6	89.1	64.9	**	89.1
N	*194*	*446*		*306*	*266*	*68*		*640*
Type of social networking account								
Facebook	94.7	98.2	*ns*	97.3	98.0	92.5	*ns*	97.4
Instagram	1.7	2.1	*ns*	2.2	1.7	1.7	*ns*	2.0
YouTube	40.3	23.8	*	29.5	23.7	35.6	*ns*	27.7
Twitter	0.0	1.3	***	1.7	0.0	0.0	*ns*	1.0
Others	20.8	15.5	*ns*	17	16.1	18.7	*ns*	16.7
N	*152*	*390*		*278*	*217*	*47*		*542*
% who owns a cellphone	32.9	37.8	*ns*	49.2	32.1	12.4	***	36.0
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
Mean number of hours of cellphone use per day	2.15	2.09	*ns*	2.25	1.89	2.11	*ns*	2.11
N	*363*	*818*		*514*	*527*	*140*		*1,181*
% who owns a tablet	1.1	3.4	*ns*	4.4	0.9	2.0	*	2.6
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
Mean number of hours of tablet use per day	2.48	1.43	*	1.27	2.31	2.53	*ns*	1.59
N	*15*	*53*		*25*	*30*	*13*		*68*
% who owns a laptop	1.2	0.9	*ns*	2.1	0.1	0.2	***	1.0
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
Mean number of hours of laptop use per day	1.00	1.14	*ns*	1.07	1.22	1.00	*ns*	1.08
N	*4*	*12*		*10*	*5*	*1*		*16*
Use of gadgets								
Calling friends and family	95.1	97.1	*ns*	97.1	96.3	90.9	*ns*	96.4
Sending or receiving emails	3.3	10.7	*	8.9	7.3	7.7	*ns*	8.2
Chat site messaging	29.4	52.9	**	49.6	41.0	27.4	*ns*	45.1
Voice or video call using the internet	31.2	49.9	*	46.7	41.4	28.8	*ns*	43.7

Information Technology	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
Playing video or computer games	4.5	10.5	*ns*	9.7	7.3	4.9	*ns*	8.5
Watching movies and TV shows, and listening to music	27.7	31.1	*ns*	31.2	29.3	22.7	*ns*	30.0
Read ebooks, magazines, and online news	4.3	6.7	*ns*	6.3	5.5	4.5	*ns*	5.9
Internet banking	0.7	1.8	*ns*	1.9	0.3	3.5	*ns*	1.4
Others	1.0	2.2	*ns*	1.7	2.1	0.9	*ns*	1.8
N	*369*	*838*		*520*	*542*	*145*		*1,207*
Persons who help older person with the use of these gadgets								
None	43.6	22.7	*	30.9	29.0	20.8	*ns*	29.6
Spouse	8.0	1.0	***	3.0	3.4	5.3	*ns*	3.3
Son	18.6	16.1	*ns*	21.5	11.1	9.7	*	17.0
Daughter	26.3	28.1	*ns*	28.2	27.3	22.5	*ns*	27.5
Son-in-law	0.2	0.2	*ns*	0.3	0.1	1.2	*ns*	0.2
Daughter-in-law	0.6	2.7	*ns*	1.6	2.5	3.2	*ns*	2.0
Grandchild	19.4	30.8	*ns*	24.9	27.8	41.5	*ns*	27.0
Brother	0.5	0.0	***	0.1	0.3	0.1	*ns*	0.2
Sister	0.0	0.4	*ns*	0.4	0.0	0.0	*ns*	0.3
Other relatives	1.4	4.8	*	3.6	3.9	3.1	*ns*	3.7
Friends	2.0	4.5	*ns*	2.8	5.5	1.0	*ns*	3.7
Others (neighbour, house help, etc.)	0.3	0.9	*ns*	0.5	1.2	0.1	*ns*	0.7
N	*369*	*838*		*520*	*542*	*145*		*1,207*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 10.1. Awareness and Use of Services by Sex and Age

Awareness and Use of Services	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who have heard about the government's program that provides privileges to senior citizens 60 years and over	92.9	92.9	*ns*	93.4	93.3	90.8	*ns*	92.9
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*
% with a senior citizen ID card	99.0	98.9	*ns*	98.2	99.5	99.2	*	98.9
N	*1,237*	*2,502*		*1,020*	*1,615*	*1,104*		*3,739*
% who have availed of the following privileges:								
20% discount on purchase of medicine	73.2	80.2	*ns*	73.8	79.8	82.5	*	77.7
20% discount from all establishments for transportation services, hotels and similar lodging establishments, restaurants and recreation centres	75.3	77.3	*ns*	79.8	75.7	70.4	*	76.6
20% discount on admission fees charged by theaters, cinema houses, concert halls, circuses, carnivals and other similar places of culture, leisure, and amusement	10.4	12.0	*ns*	10.3	12.9	10.5	*ns*	11.4
Exemption from the payment of individual income taxes	3.8	5.0	*ns*	4.0	5.0	5.0	*ns*	4.6
Exemption from training fees for socioeconomic programmes undertaken by the Office for Senior Citizens Affairs	5.5	4.0	*ns*	4.5	3.8	6.2	*ns*	4.5
Free medical and dental services in government health facilities anywhere in the country	32.9	32.7	*ns*	31.6	32.9	35.4	*ns*	32.8
N	*1,219*	*2,476*		*1,007*	*1,594*	*1,094*		*3,695*
% who are recipients of the ₱500 monthly social pension given by the DSWD	60.7	58.6	*ns*	53.1	62.5	67.7	***	59.4
N	*1,342*	*2,666*		*1,075*	*1,729*	*1,204*		*4,008*

*p < .05, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 10.2. Attitudes Towards Homes for the Aged by Sex and Age

Attitudes	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who think it's a good idea to have Homes for the Aged								
Yes	71.6	76.6		76.9	73.3	71.3		74.7
No	26.0	19.3	*ns*	19.8	23.0	25.2	*ns*	21.8
It depends	2.4	4.1		3.3	3.7	3.5		3.5
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*
Desire to live in a Home for the Aged if near the current residence								
Yes	17.7	14.0		18.9	12.8	11.0		15.4
No	67.0	78.3	*	70.9	75.3	82.0	*	74.1
It depends	14.9	7.5		10.0	11.6	6.6		10.3
N	*1,170*	*2,247*		*1,041*	*1,568*	*808*		*3,417*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 11.1. Social Contact Between Older Persons and Non-co-resident Children in the Past 12 Months by Sex and Age

Social Contact	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who visited at least one child	84.3	85.6	*ns*	84.3	87.2	81.3	*ns*	85.1
% who wrote, called, or texted at least one child	50.2	57.0	*ns*	58.2	54.0	41.8	*	54.4
% who was visited by at least one child	80.2	81.3	*ns*	79.2	82.9	80.3	*ns*	80.9
% who received letters, calls, or text messages from at least once child	67.0	74.5	*ns*	73.7	71.0	66.2	*ns*	71.7
N	*1,065*	*1,999*		*914*	*916*	*734*		*3,064*

*p < .05, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 11.2 Assistance Provided by Older Persons to Co-resident and Non-co-resident Children in the Past 12 Months by Sex and Age

Social Contact	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
To any co-resident child:								
% who gave financial support	44.1	37.1	*ns*	46.7	36.4	30.0	**	39.6
% who gave material support	56.4	48.2	*	63.0	46.8	32.7	***	51.2
% who gave instrumental support	5.4	2.3	***	3.1	4.0	2.8	*ns*	3.4
% who gave emotional support	84.9	83.2	*ns*	87.6	88.1	65.2	***	83.8
N	*753*	*1,611*		*655*	*999*	*710*		*2,364*
To any non-co-resident child:								
% who gave financial support	31.7	33.2	*ns*	38.5	31.8	20.7	***	32.7
% who gave material support	38.0	37.2	*ns*	44.3	37.7	20.6	**	37.5
% who gave instrumental support	2.7	2.5	*ns*	2.6	2.6	2.4	*ns*	2.6
% who gave emotional support	84.3	82.9	*ns*	87.9	86.9	64.8	***	83.4
N	*1,219*	*2,389*		*946*	*1,556*	*1,106*		*3,608*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 11.3. Assistance Received by Older Persons from Co-resident and Non-co-resident Children in the Past 12 Months by Sex and Age

Social Contact	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
To any co-resident child:								
% who gave financial support	73.0	75.6	*ns*	74.6	77.1	69.3	*ns*	74.6
% who gave material support	77.9	81.0	*ns*	77.1	79.9	86.5	*ns*	79.9
% who gave instrumental support	12.8	19.4	*ns*	8.2	15.9	40.4	***	17.0
% who gave emotional support	81.5	88.7	**	84.2	87.5	87.6	*ns*	86.1
N	*753*	*1,611*		*655*	*999*	*710*		*2,364*
To any non-co-resident child:								
% who gave financial support	86.6	88.2	*ns*	87.9	87.8	86.2	*ns*	87.6
% who gave material support	81.2	80.5	*ns*	80.0	81.3	81.6	*ns*	80.8
% who gave instrumental support	9.2	9.8	*ns*	6.0	8.2	21.3	***	9.6
% who gave emotional support	86.2	89.7	*ns*	87.2	91.6	84.1	*	88.4
N	*1,219*	*2,389*		*946*	*1,556*	*1,106*		*3,608*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 11.4. Exchange of Financial Support Between Older Persons and Children by Sex and Age

Exchange of Financial Support	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who gave a large amount to any child in the past 12 months to start a business, special medical expense, travel abroad, or some other special purpose	9.6	9.5	*ns*	9.4	11.4	5.4	*ns*	9.5
N	*1,286*	*2,529*		*1,019*	*1,647*	*1,149*		*3,815*
% who received monthly financial support from any of the children	33.6	4.8	*ns*	37.9	39.9	37.5	*ns*	38.6
N	*1,286*	*2,529*		*1,019*	*1,647*	*1,149*		*3,815*

*p < .05, **p < .01, ***p < .001, ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 11.5. Attitudes Towards Family Support of Older Persons by Sex and Age

Social Contact	SEX			AGE GROUP				TOTAL
	Male	Female	Sig	<70	70–79	80+	Sig	
% who plan to rely on children for financial support	33.4	36.0	*ns*	31.0	38.7	37.5	*ns*	35.0
Satisfaction with level of contact with children								
Very satisfied	67.9	69.5		69.6	67.6	71.1		68.9
Satisfied but can be improved	28.4	27.8	*ns*	27.5	29.5	24.7	*ns*	28.0
Not satisfied	3.7	2.7		3.0	2.8	4.2		3.1
N	*1,109*	*2,106*		*982*	*1,480*	*753*		*3,215*
Satisfaction with level of assistance given by children								
Very satisfied	60.4	63.3		59.4	64.0	66.7		62.2
Satisfied but can be improved	33.8	30.5		32.4	32.0	28.0		31.7
Not satisfied	4.0	4.7	*ns*	5.9	2.7	4.6	*ns*	4.4
Not getting any assistance from any child	1.9	1.6		2.4	1.3	0.7		1.7
N	*1,109*	*2,106*		*982*	*1,480*	*753*		*3,215*

ns = not significant.

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.1. Type of Caregiver by Sex and Age of Older Persons

Type of Caregiver	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Primary	13.5	15.8	6.4	14.5	35.6	15.0
Potential	86.5	84.2	93.6	85.5	64.4	85.0
N	*1,266*	*2,514*	*999*	*1,623*	*1,158*	*3,780*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.2. Characteristics of Primary Caregivers by Sex and Age of Older Persons

Characteristics of Primary Caregivers	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Sex						
Male	6.3	21.5	20.5	17.7	13.6	16.5
Female	93.7	78.5	79.5	82.3	86.4	83.5
Age						
Below 20	0.1	1.1	0.7	0.6	0.9	0.7
20–29	7.2	13.9	13.2	11.0	11.7	11.7
30–39	5.8	19.5	9.8	23.5	9.1	15.0
40–49	11.0	25.5	13.3	18.8	25.5	20.7
50–59	14.2	21.8	7.6	13.2	29.9	19.3
60–69	34.9	13.9	51.9	10.9	17.7	20.9
70–79	26.0	3.5	3.5	21.7	3.7	10.9
80+	0.8	0.8	0.0	0.4	1.4	0.8
Mean age	*58.32*	*45.89*	*53.00*	*49.66*	*49.09*	*49.99*
Marital status						
Never married	12.4	29.2	12.4	29.5	22.7	23.7
Currently married	52.5	45.8	65.4	37.7	50.7	48.0
Living in	29.2	13.1	13.0	26.1	13.2	18.4
Separated/Divorced/Annulled	3.4	4.2	3.2	2.8	5.4	3.9
Widowed	2.5	7.8	6.0	3.9	8.0	6.0
Education						
No schooling/elementary	52.4	22.9	47.4	31.1	28.1	32.6
High school	36.3	45.1	44.1	36.3	47.1	42.2
College+	11.3	32.0	8.5	32.6	24.9	25.2

Characteristics of Primary Caregivers	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Type of place of residence						
Rural	61.2	52.1	49.5	56.6	55.9	55.1
Urban	38.8	47.9	50.5	43.4	44.1	44.9
Work status						
Working	25.7	48.8	30.7	44.0	42.7	41.1
Stopped working completely	50.8	27.9	45.3	38.5	28.6	35.5
Never worked	23.5	23.3	24.0	17.5	28.7	23.4
% with caregiver training	3.2	1.9	5.2	0.8	2.6	2.3
N	*173*	*495*	*66*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.3. Relationship and Living Arrangement of Primary Caregivers to/with Older Persons by Sex and Age of Older Persons

Relationship and Living Arrangement	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Relationship to older person						
Spouse	62.8	5.5	60.5	30.7	3.8	24.4
Son	5.5	9.0	10.9	6.0	8.4	7.9
Daughter	17.3	49.4	16.5	36.4	50.2	38.8
Son-in-law	0.0	0.0	0.0	0.0	0.1	0.0
Daughter-in-law	3.3	11.5	3.1	9.6	10.4	8.8
Grandson	0.0	5.8	0.0	6.0	3.4	3.9
Granddaughter	5.3	7.8	1.9	3.1	12.7	7.0
Other relative	4.0	8.5	5.5	6.6	8.0	7.0
Not related	1.6	2.5	1.6	1.4	3.1	2.2
Living arrangement with older person						
Lives with older person	86.1	75.8	90.5	85.5	68.6	79.2
Lives next door	7.6	14.9	3.5	10.4	18.1	12.5
Lives in same barangay	4.7	7.6	6.0	3.4	10.0	6.7
Lives in same city/municipality	1.0	1.5	0.0	0.6	2.5	1.3
Lives in same province	0.0	0.2	0.0	0.0	0.3	0.1
Lives in a different province	0.6	0.1	0.0	0.1	0.5	0.2
N	*173*	*495*	*66*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data

Table 12.4. Self-assessed Health of Primary Caregiver of Older Persons by Sex and Age of Older Persons

Self-assessed Health Status	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Current health status						
Very healthy	22.1	21.6	32.8	12.3	26.3	21.7
Healthier than average	15.3	13.5	15.6	13.3	14.2	14.1
Of average health	35.2	48.4	41.4	48.4	41.2	44.1
Somewhat unhealthy	26.7	15.8	10.2	24.9	17.8	19.3
Very unhealthy	0.8	0.7	0.0	1.2	0.6	0.7
N	*172*	*492*	*66*	*218*	*380*	*664*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.5. Primary Caregivers' Perception on Older Persons' ADL Difficulty by Sex and Age of Older Persons

Primary Caregivers' Perception of Older Persons' ADL Difficulty	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Activities of daily living						
Take a bath/shower by oneself	42.7	42.4	43.9	27.3	56.3	42.5
Dress	39.6	36.8	41.3	21.8	51.4	37.7
Eat	25.1	18.8	35.7	11.2	24.1	20.9
Stand up from a bed/chair, sit on a chair	43.2	51.2	49.6	42.4	54.1	48.6
Walk around the house	65.1	56.9	54.4	61.7	59.7	59.6
Go outside (leave the house)	67.8	71.9	57.1	70.9	75.8	70.6
Use the toilet	36.2	48.6	38.3	30.5	60.4	44.5
% of caregivers who assessed that older persons with at least one ADL difficulty	78.6	78.8	68.9	75.8	85.6	78.7
N	*173*	*495*	*66.0*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.6. Primary Caregivers' Perception of the Need for Assistance of Older Persons with ADL Difficulty by Sex and Age of Older Persons

Primary Caregivers' Perception of Older Persons' Need for Assistance	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Take a bath/shower by oneself	87.6	98.2	80.2	96.0	98.6	94.7
N	*82*	*245*	*22*	*91*	*214*	*327*
Dress	99.5	98.5	100.0	98.0	98.8	98.9
N	*74*	*208*	*19*	*80*	*183*	*282*
Eat	97.7	92.0	100.0	88.4	93.4	94.3
N	*38*	*116*	*12*	*38*	*104*	*154*
Stand up from a bed/chair, sit on a chair	82.8	79.5	80.4	62.8	93.6	80.5
N	*80*	*242*	*24*	*101*	*197*	*322*
Walk around the house	68.5	97.8	98.8	71.7	98.3	87.3
N	*100*	*281*	*28*	*117*	*236*	*381*
Go outside (leave the house)	69.8	96.7	99.7	71.5	99.5	88.2
N	*104*	*369*	*32*	*148*	*293*	*473*
Use the toilet	99.8	97.5	100.0	99.7	96.9	98.1
N	*83*	*266*	*19*	*96*	*234*	*349*
% of caregivers who assessed that older person with at least one ADL difficulty need assistance	57.4	78.0	67.9	58.0	85.1	71.2
N	*173*	*495*	*66*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.7. Assistance Given to Older Persons for Various ADL by Sex and Age of Older Persons

Assistance	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Percent who assist older person with the following activities of daily life:						
Household tasks	89.4	86.1	88.6	87.3	86.6	87.2
Personal care	78.3	65.2	73.9	61.0	75.8	69.5
Moving around the house, going on outings, visiting family or friends, etc.	35.3	62.1	44.4	52.6	57.5	53.3
N	*173*	*495*	*66*	*220*	*382*	*668*
Mean number of hours per week spent caring for older person						
Household tasks	26.49	27.67	36.17	27.22	23.61	27.27
N	*153*	*419*	*59*	*181*	*332*	*572*
Personal care	16.41	21.19	12.16	24.95	18.06	19.41
N	*118*	*340*	*44*	*145*	*269*	*458*
Moving around the house, going on outings, visiting family or friends, etc.	10.73	14.45	9.43	20.52	8.94	13.64
N	*80*	*282*	*34*	*116*	*212*	*362*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.8. Difficulty in Caring for Older Persons by Sex and Age of Older Persons

Difficulty	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Difficulty in caring for older person						
1	14.4	14.6	20.1	15.7	11.2	14.6
2	14.8	6.2	24.2	9.0	3.0	9.1
3	7.2	10.1	8.9	8.5	9.9	9.1
4	6.1	3.2	5.3	2.8	4.9	4.1
5	24.6	11.9	2.6	20.5	17.3	16.1
6	7.7	23.5	10.1	23.8	16.5	18.3
7	2.8	5.9	0.0	2.6	9.1	4.9
8	4.2	10.5	10.3	5.8	10.1	8.4
9	2.6	2.2	0.0	2.0	3.6	2.3
10	15.7	11.9	18.6	9.5	14.4	13.1
Mean level of difficulty in caring of older person	4.92	5.34	4.58	4.92	5.73	5.21
N	*173*	*495*	*66.0*	*220*	*382*	*668*
Median duration (in months) spent taking care of older person	12.00	48.00	24.00	48.00	48.00	36.00
N						
Reason for being the primary caregiver						
I volunteered	41.2	35.8	38.5	40.7	34.2	37.6
Older person requested me	10.8	6.4	8.2	9.2	6.4	7.8
Other family members requested me	3.1	6.3	3.1	0.9	10.2	5.2
I am the only one available	35.0	47.3	34.1	45.6	44.7	43.3
Others (older person took care of me as a child, lives with older person, etc.)	9.8	4.2	16.1	3.6	4.4	6.1
N	*173*	*495*	*66*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.9. Situation as a Primary Caregiver by Sex and Age of Older Persons

Situation as a Caregiver	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
% who agree or strongly agree with the ff. statements:						
I gained personal satisfaction from performing my care tasks	90.1	66.5	87.5	65.8	77.0	74.3
I have problems with older person (e.g. demanding, communication problems, behaves differently)	15.2	21.7	15.4	12.2	28.3	19.5
I have problems with my own mental health	31.4	16.6	9.9	26.7	21.2	21.5
I have problems with my own physical health	24.6	24.3	36.7	14.6	28.8	24.4
I have problems combining my daily activities	20.9	31.4	36.1	20.1	32.0	27.9
I have financial problems concerning my care tasks for older person	36.9	34.5	59.9	20.2	39.6	35.3
I have support from family/friends/ neighbours/paid help in performing my care tasks for older person	34.0	38.4	35.4	21.5	52.2	36.9
N	*173*	*495*	*66*	*220*	*382*	*668*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.10. Characteristics of Potential Caregivers by Sex and Age of Older Persons

Characteristics of Potential Caregivers	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Sex						
Male	16.1	40.4	36.6	27.3	27.0	31.4
Female	83.9	59.6	63.4	72.7	73.0	68.6
Age						
Below 20	2.2	3.0	2.9	3.0	1.2	2.7
20–29	8.6	18.4	17.4	11.7	15.6	14.8
30–39	9.0	18.3	17.3	14.0	9.4	14.9
40–49	12.8	24.6	14.6	23.6	28.2	20.2
50–59	15.4	16.1	9.9	19.2	24.7	15.8
60–69	35.1	12.7	29.4	15.0	12.2	21.0
70–79	16.1	6.0	8.4	12.4	5.9	9.8
80+	0.9	0.8	0.1	1.1	2.7	0.9
Mean age	*54.77*	*44.13*	*47.63*	*47.63*	*47.66*	*48.08*
Marital status						
Never married	9.7	22.2	17.2	16.6	21.8	17.6
Currently married	74.1	51.9	60.1	61.7	55.4	60.1
Living in	11.4	18.9	18.2	14.9	13.1	16.1
Separated/Divorced/Annulled	2.4	3.5	2.7	4.0	1.6	3.1
Widowed	2.3	3.5	1.7	2.8	8.1	3.0
Education						
No schooling/elementary	45.2	23.0	35.9	28.8	23.4	31.2
High school	41.5	49.8	44.1	48.2	50.6	46.7
College+	13.4	27.2	20.0	23.0	26.0	22.1
Type of place of residence						
Rural	56.3	50.5	50.9	53.5	55.9	52.7
Urban	43.7	49.5	49.1	46.5	44.1	47.3
% currently working	41.0	48.2	43.6	46.0	50.4	45.5
% with caregiver training	3.1	2.5	3.4	2.2	1.9	2.7
N	*1093*	*2019*	*933*	*1403*	*776*	*3112*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.11. Relationship of Potential Caregiver to Older Person by Sex and Age

Indicators	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Relationship to older person						
Spouse	57.3	15.0	39.2	28.5	9.4	30.7
Son	9.5	14.3	12.8	11.3	15.2	12.5
Daughter	15.3	29.3	21.9	24.8	29.4	24.1
Son-in-law	0.3	3.1	0.7	3.9	0.8	2.0
Daughter-in-law	2.8	12.5	7.4	9.9	10.7	8.9
Grandson	1.2	5.2	2.3	3.9	7.6	3.7
Granddaughter	3.0	8.7	4.1	6.9	13.5	6.6
Other relative	9.6	10.6	10.7	9.7	10.5	10.3
Not related	1.0	1.4	0.8	1.1	2.8	1.2
N	*1,093*	*2,019*	*933*	*1,403*	*776*	*3,112*
Living arrangement with older person						
Lives with older person	79.0	59.9	71.8	64.1	60.1	67.0
Lives next door	13.7	22.4	18.7	18.3	23.1	19.1
Lives in same barangay	6.5	15.1	7.7	15.2	15.5	11.9
Lives in same city/municipality	0.7	2.0	1.4	1.8	1.1	1.5
Lives in same province	0.1	0.2	0.1	0.2	0.0	0.1
Lives in a different province	0.1	0.5	0.4	0.4	0.1	0.3
N	*1,093*	*2,019*	*933*	*1,403*	*776*	*3,112*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 12.12. Self-assessed Health of Potential Caregivers of Older Persons and Their Willingness to Assume the Caregiver Responsibility by Sex and Age of Older Persons

Self-assessed Health Status	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Current health status						
Very healthy	25.7	35.9	28.7	33.4	39.7	32.1
Healthier than average	13.4	17.7	16.4	17.4	10.8	16.1
Of average health	48.2	34.1	40.4	37.0	43.0	39.3
Somewhat unhealthy	12.7	11.6	13.9	11.9	6.0	12.0
Very unhealthy	0.0	0.7	0.6	0.3	0.5	0.5
% willing to assume responsibility as caregiver	99.8	99.2	100.0	98.9	99.3	99.4
N	*1,093*	*2,019*	*933*	*1,403*	*776*	*3,112*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.1. Characteristics of Children by Sex and Age of Older Persons

Characteristics of Children	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Age						
Below 20	1.0	0.2	1.0	0.2	0.0	0.5
20–29	21.1	7.4	21.9	9.2	0.5	12.6
30–39	32.4	24.6	42.4	23.8	4.2	27.6
40–49	33.8	34.3	33.6	40.0	21.7	34.1
50–59	10.3	27.8	1.1	26.1	52.8	21.1
60–69	1.5	5.0	0.0	0.7	18.4	3.7
70–79	0.0	0.7	0.0	0.0	2.4	0.4
Mean age	*53.52*	*44.42*	*35.58*	*42.97*	*53.52*	*41.99*
Sex						
Male	39.2	49.0	48.7	40.2	49.5	45.3
Female	60.8	51.0	51.3	59.8	50.5	54.7
Marital status						
Never married	19.2	13.6	21.4	12.0	12.0	15.7
Currently married	46.1	56.5	45.6	53.4	65.6	52.5
Living in	28.0	17.0	26.8	21.3	8.6	21.2
Separated/Divorced/Annulled	4.8	5.7	4.5	6.5	4.9	5.4
Widowed	2.0	7.2	1.7	6.8	8.9	5.2
Education						
No schooling/elementary	31.8	27.9	24.8	32.3	32.7	29.4
High school	37.2	49.0	50.5	37.2	48.2	44.5
College+	31.0	23.1	24.7	30.5	19.1	26.1
Type of place of residence						
Rural	59.0	53.9	48.5	53.2	55.7	51.6
Urban	41.0	46.1	51.6	46.8	44.3	48.4
% currently working	62.2	67.3	67.3	64.6	62.9	65.4
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.2. Relationship of Children to Older Persons by Sex and Age Group of Older Persons

Relationship of Children to Older Person	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Living arrangement						
Lives with older person	37.1	34.9	39.8	31.0	37.5	35.7
Lives next door	35.2	33.9	32.9	37.5	30.3	34.4
Lives in same barangay	22.0	26.7	21.8	26.7	27.4	24.9
Lives in same city/municipality	3.4	3.1	3.7	3.5	1.6	3.2
Lives in same province	2.0	0.4	1.3	0.6	1.5	1.0
Lives in a different province	0.4	1.0	0.4	0.7	1.7	0.8
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
Frequency of visits in the past 12 months (visited older person)						
Not at all	0.4	0.6	0.7	0.4	0.6	0.5
Everyday	70.3	77.1	74.3	76.6	69.7	74.6
Every few days	17.5	10.4	11.3	13.9	14.5	13.0
Every week	6.2	7.5	7.0	6.6	8.3	7.0
Every month	2.6	1.7	2.9	0.9	3.3	2.1
Every few months	2.2	1.1	2.4	0.8	1.5	1.5
Once a year	0.5	0.9	1.0	0.6	0.9	0.8
On special occasion	0.3	0.2	0.2	0.2	0.3	0.2
As the need arises	0.1	0.4	0.2	0.1	1.0	0.3
Frequency of visits in the past 12 months (visited by older person)						
Not at all	8.6	8.1	6.0	4.9	21.7	8.3
Everyday	54.7	61.0	60.1	63.1	44.6	58.7
Every few days	21.2	14.9	16.9	19.5	12.4	17.3
Every week	6.1	6.8	8.1	5.3	6.4	6.5
Every month	4.3	3.5	4.5	3.4	3.5	3.8
Every few months	3.0	1.6	2.4	1.2	3.9	2.1
Once a year	0.8	0.7	0.1	1.0	1.5	0.7
On special occasion	0.8	2.2	2.0	1.0	2.7	1.7
As the need arises	0.4	1.2	0.0	0.6	3.5	0.9

Relationship of Children to Older Person	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Frequency of talking/chatting with older person (through phone, Facebook, etc.) in the past month						
Not at all	64.6	64.7	62.6	65.0	68.0	64.7
Everyday	18.4	18.9	17.2	19.9	18.8	18.7
Every few days	5.0	7.1	8.0	5.3	5.2	6.3
Every week	1.4	4.1	4.3	1.5	4.4	3.1
Once	8.0	3.7	5.1	6.9	1.8	5.3
As the need arises	2.6	1.5	2.8	1.2	1.9	1.9
N	*520*	*1,117*	*392*	*696*	*549*	*1,637*
Type of relationship with older person growing up (from birth to age 15)						
Get along well all the time	70.1	61.1	62.5	65.2	67.4	64.5
Get along well most of the time	23.6	30.7	27.9	29.7	24.5	28.0
Get along well sometimes	5.5	7.7	9.1	4.6	7.1	6.8
We don't get along well at all	0.8	0.5	0.5	0.6	1.0	0.6
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
Type of relationship with older person at present						
Get along well all the time	68.9	61.8	65.4	63.1	65.8	64.5
Get along well most of the time	27.6	30.9	26.9	32.9	28.1	29.7
Get along well sometimes	3.5	7.1	7.6	3.7	6.1	5.7
We don't get along well at all	0.1	0.2	0.0	0.4	0.0	0.2
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.3. Support Given to Older Persons by Sex and Age of Older Persons

Support from Children	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
% who provided financial support to older person in the past month	57.4	61.5	62.2	55.4	65.5	59.9
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
% who provide financial support to older person every month	24.8	29.7	26.4	28.7	29.7	27.9
N	*532*	*1,080*	*426*	*681*	*505*	*1,612*
Median monthly financial support given to older person (pesos)	1000.00	1000.00	1000.00	1200.00	1000.00	1000.00
N	*148*	*347*	*140*	*207*	*148*	*495*
% who provided financial support to older person in the past month	57.4	61.5	62.2	55.4	65.5	59.9
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
% who provide financial support to older person every month	24.8	29.7	26.4	28.7	29.7	27.9
N	*532*	*1,080*	*426*	*681*	*505*	*1,612*
Median monthly financial support given to older person (pesos)	1000.00	1000.00	1000.00	1200.00	1000.00	1000.00
N	*148*	*347*	*140*	*207*	*148*	*495*
Financial support to older person provided by siblings						
All siblings provide	25.6	19.3	21.3	21.4	23.2	21.7
Some siblings provide	68.7	70.1	69.3	70.7	67.7	69.6
I alone provide help	4.7	7.2	7.9	4.4	6.9	6.3
I am an only child	1.1	3.4	1.5	3.6	2.1	2.5
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
Other forms of support provided to older person in the past 12 months						
None	4.0	1.5	3.0	2.1	2.1	2.5
Material support	71.1	75.9	74.8	74.6	71.1	74.1
Help in household chores	38.9	36.5	34.9	38.7	39.9	37.4

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.4. Support Received from Older Persons by Sex and Age of Older Persons

Support from Older Person	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
% who received financial support from older person in the past month	34.6	31.8	39.8	29.7	25.1	32.8
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
% who received financial support from older person every month	6.3	9.0	5.9	8.3	13.6	7.9
N	*302*	*493*	*271*	*324*	*200*	*795*
Other forms of support received from older person in the past 12 months						
None	15.8	13.9	8.2	13.9	30.0	14.6
Material support	47.3	43.4	56.3	41.5	28.1	44.9
Help in household chores	10.2	11.8	13.8	11.3	5.5	11.2
Help in transportation	0.8	0.7	0.6	1.0	0.4	0.7
Manage financial transactions	0.6	0.5	0.2	1.0	0.2	0.5
Manage business	0.1	0.9	1.2	0.2	0.2	0.6
Personal care	6.4	15.4	15.8	11.1	5.8	12.0
Emotional support	67.5	69.9	72.6	70.0	59.0	69.0
Child care	15.7	20.1	22.1	19.9	7.2	18.4
Others (spiritual support, etc.)	1.1	0.4	0.7	0.7	0.6	0.7
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.5. Perception of Children on the Health Status of Older Persons by Sex and Age of Older Persons

Perception of Children on the Health Status of Older Person	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Health status of older person						
Functional and healthy	26.8	26.2	30.3	27.5	15.5	26.4
Has some medical conditions but can still do things on his/her own	54.6	51.0	55.4	54.0	42.3	52.4
Has some medical conditions that requires help in doing some things	13.9	16.7	12.2	15.5	23.4	15.7
Has some medical conditions and is dependent on a caregiver	4.6	6.1	2.1	3.0	18.8	5.5
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*
Person who mainly provides assistance to older person						
Mainly self	25.4	27.5	24.1	28.8	27.7	26.7
Mother	0.0	0.4	0.4	0.0	0.2	0.2
Sister	20.9	32.9	25.7	26.4	38.3	28.3
Brother	9.3	15.1	14.2	14.2	7.3	12.9
My children	2.0	1.5	1.4	1.8	2.2	1.7
Other family members	33.8	15.0	27.1	19.7	17.1	22.2
Paid help	0.4	0.1	0.0	0.1	1.0	0.2
Others (daughter-in-law, etc.)	8.2	7.5	7.1	9.1	6.1	7.8
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.6. Perception of Children on the Cognitive Decline of Older Persons by Sex and Age of Older Persons

Perception of Children on Cognitive Decline of Older Person	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
Percent of children who think that the following cognitive functions of older person worsened in the past two years:						
Remembering things about family and friends, such as occupations, birthdays, and addresses	16.0	23.1	16.7	18.0	33.7	20.4
Remembering things that have happened recently	14.1	21.9	14.1	15.9	36.0	18.9
Recalling conversations a few days later	14.5	22.8	13.6	16.7	39.5	19.6
Remembering [his/her] address and telephone number	11.0	20.3	11.1	15.4	32.2	16.8
Remembering what day and month it is	18.1	22.6	11.4	19.3	44.6	20.9
Remembering where things are usually kept	22.2	30.6	23.8	24.2	42.5	27.4
Remembering where to find things which have been put in a different place from usual	27.9	36.3	25.4	34.3	46.9	33.1
Knowing how to work familiar machines around the house	14.2	17.9	10.8	15.0	32.4	16.5
Learning to use a new gadget or machine around house	18.7	22.0	17.2	21.0	27.8	20.7
Learning new things in general	15.2	22.6	15.7	17.6	33.6	19.8
Following a story in a book or on TV	9.5	16.0	9.3	12.5	24.9	13.5
Making decisions on everyday matters	9.0	14.9	6.5	11.1	29.3	12.7
Handling money for shopping	9.6	13.0	7.5	10.1	24.3	11.7
Handling financial matters; for example, the pension, or dealing with the bank	11.9	14.4	8.3	11.9	27.7	13.4
Handling other everyday arithmetic problems	16.8	19.2	9.9	19.3	34.1	18.3
Using his/her intelligence to understand what's going on and to reason things through	12.7	20.8	9.3	17.7	35.9	17.7
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Table 13.7. Attitudes and Beliefs of Children by Sex and Age of Older Persons

Attitudes and Beliefs of Children	SEX		AGE GROUP			TOTAL
	Male	Female	<70	70–79	80+	
% of children who agree with the following statements:						
A child is expected to support and take care of his/her aged parents	97.6	98.1	96.6	99.2	98.0	97.9
It is acceptable for someone in their 60's or older to fall in love	35.6	25.6	35.0	24.9	27.6	29.4
It is acceptable for someone in their 60s or older to (re)marry if they find a suitable partner	27.4	21.4	28.5	19.6	22.7	23.7
It is acceptable for children who looked after their parents to inherit larger portions of their estate when they pass away	35.1	33.4	33.1	35.4	32.9	34.1
It is better for the older parent to live with a daughter than with a son	63.3	62.9	58.3	68.1	61.6	63.0
Men should work for the family, and women should stay home and take care of the household	62.3	53.9	58.0	55.5	58.7	57.1
It is the parents' duty to do their best for their children even at the expense of their own well-being	79.3	80.2	79.4	79.4	81.8	79.8
N	*876*	*1,719*	*685*	*1,094*	*816*	*2,595*

Source: Calculated by the DRDF using original LSAHP W2 data.

Annex D

Research Team and Field Personnel

Principal Investigator of the Two-Country Project (Philippines and Viet Nam)
Yasuhiko Saito

LSAHP Project Team

Principal Investigator
Grace T. Cruz

Co-principal Investigator
Christian Joy P. Cruz

Research Associate
Mark Ryan B. Paguirigan

Research Assistants
Angelo Rafael B. Nacionales
John Lemuel T. Magnaye
Maria Karlene Shawn I. Cabaraban

Subject Matter Specialists
Jose Andres F. Ignacio
Maria Midea M. Kabamalan

Statistical Consultant
Erniel B. Barrios

Data Processing Coordinator
Maria Paz N. Marquez

Programmer
Leo Angelo L. Ocampo

Data Processing Assistants
Jeconiah K. Boongaling
Jane A. Siwa
Klarriness P. Tanalgo
Reggie B. Esmenda

Administrative Support
Gilda Salvacion A. Diaz
Jermelita R. Cruz

Field Personnel

Metro Manila and Luzon

Field Supervisors
Catherine Coronel
Ernesto C. Escanillan Jr.
Erwin C. Escanillan
Russel Mordeno

Field Interviewers
Rose Mae Agudo
Rizal O. Alonzo
Jun D. Andres
Jessica V. Aquino
Cleopatra Alvaro
Glen S. Cabrera
Justin Cariso
Eden C. Carino
Gerardo Cruz
Alma L. Escanillan
Lorelie Joy J. Estudillo
Dominic R. Flaminiano
Resurreccion Galutan
Mariel Jimenez
Lovely Faith Mercader
Rachiel Morales
Ma. Lourdes N. Oliver
Rowena M. Paulino
Grace Remegio
Ma. Ardaine F. Suan
Sylvarstein Razner L. Sursigis
Dan Angelo Tabao
Marichu A. Ymata

Visayas

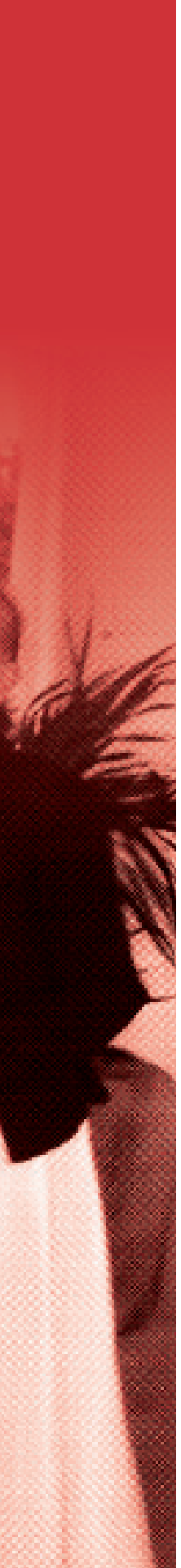
Field Supervisors
Erna Canale
Clarita C. Celada
Mahalla Ileen E. Marquez

Field Interviewers
Daniel H. Amosco
Evelyn R. Batibot
Reynaldo B. Cabsag
Marissa C. Casarino
Renalyn C. De Sulat
Aura D. Escorido
Joebel G. Garol
May Christie T. Geniston
Ruel D. Lavado
Leomar H. Miranda
Avelyn J. Morallos
Judith A. Nacino
Renato N. Nacionales
Christine Ann Raras
Ryan S. Salas

Mindanao

Field Supervisors
Abner B. Alusen
Maria Melanie V. Bagwang
Aurelia R. Estimo

Field Interviewers
Rochelle E. Abunda
Anelyn G. Agang-ang
Lea P. Alivar
Bobby Rey E. Ang
Marilou G. Bacol
Josie M. Briones
Mercedita A. Cabotaje
Gennie Camacho
Arceli Clinia A. Catubig
Venus L. Catubig
Grandel R. Laurel
Sol P. Lomopog
Sanny T. Mangayao
Estrella R. Panogalon
Kim Xavier Rodero



Annex E

Advisory Committee

Asian Development Bank (ADB)
Coalition of Services for the Elderly (COSE)
Commission on Human Rights (CHR)
Commission on Population and Development (CPD)
Department of Health (DOH)
Department of Psychology, CSSP, University of the Philippines
Department of Social Welfare and Development (DSWD)
Institute on Aging – National Institutes of Health (IA-NIH), University of the Philippines – Manila
National Commission of Senior Citizens (NCSC)
National Economic and Development Authority (NEDA)
Philippine Health Insurance Corporation (PhilHealth)
Philippine Statistics Authority (PSA)
Social Security System (SSS)
United Nations Population Fund Philippines (UNFPA Philippines)
Population Institute (UPPI), CSSP, University of the Philippines

Ageing and Health in the Philippines: Wave 2 is the second publication of the *Longitudinal Study of Ageing and Health in the Philippines (LSAHP)*, the first nationally representative panel study focusing on Filipinos aged 60 and older. Funded by ERIA (the Economic Research Institute for ASEAN and East Asia) and conducted by the Demographic Research and Development Foundation, the study provides essential insights into the health, well-being, and socioeconomic conditions of older Filipinos.

This report examines both survivors and deceased respondents from the baseline survey, analysing key demographic, economic, and health indicators. It also delves into new topics, including nutrition, social infrastructure, adult mortality, caregiving roles, and access to healthcare before death.

The findings are a crucial resource for policymakers and programme developers aiming to enhance economic security, healthcare access, and support systems for older Filipinos. These insights are particularly significant as the Philippines faces a demographic shift toward an ageing society in the near future.

Sentral Senayan 2, 5th,6th and 15th floors
Jalan Asia Afrika No.8
Senayan, Central Jakarta 10270, Indonesia
Tel: (62-21) 57974460 Fax: (62-21) 57974463
E-mail: contactus@eria.org