Navigating Health and Mortality Transitions: A Closer Look at Aging in the Philippines

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Introduction

The predictive power of subjective global health assessments has been widely recognized in social and epidemiological research. In particular, self-reported health (SRH) has been established since its introduction by Mossey and Shapiro in the early 1980s (Mossey & Shapiro, 1982) as a robust predictor of morbidity and mortality, even after controlling for various physical, socio-demographic, and psycho-social health indicators. The simplicity and ease of understanding of this single-item measure also contribute to the growing interest in SRH, both in empirical studies and among physicians and other healthcare professionals for assessing their patients' health.

Self-rated health is a summary measure that reflects an individual's evaluation of their health, capturing the full array of illnesses, potential disease symptoms yet to be diagnosed or treated, and the severity of current illness (Idler & Benyamini, 1997). One of the most commonly used forms of SRH is a single, non-comparative question that asks respondents to rate their health as excellent, good, fair, poor, or very poor.

This study aims to utilize the first panel data on aging and health in the Philippines to better understand how SRH affects mortality among community-dwelling older adults in the country. As a pioneering effort, it seeks to address research gaps and provide a deeper understanding of the factors influencing the health of older Filipinos, using a large national sample of individuals aged 60 years and over.

Data and Methods

The study will employ data from the Longitudinal Study of Ageing and Health in the Philippines (LSAHP), the first nationally representative panel survey on older Filipinos. It is designed to gather comprehensive data aimed at improving the well-being of older Filipinos. The LSAHP has two primary objectives: (1) to examine the health status and well-being of elderly Filipinos and identify the factors that influence these outcomes, and (2) to provide data for analyzing the determinants of health status and tracking changes over time.

The LSAHP baseline survey (Wave 1 or W1) was conducted from December 2018 to March 2019 and covered 5,985 older individuals aged 60 and above, with a response rate of 95%. Four years later, all baseline respondents were revisited at their addresses. Of these, 4,397 were still alive, 1,579 had passed away, and 9 could not be located. Both the baseline (W1) and the follow-up survey (Wave 2 or W2) achieved 95% and 94% response rates, respectively.

The dependent variable in this study is self-rated health and mortality status at Wave 2 (W2), categorized as: Very healthy/Healthier than average, Of average health, Somewhat/Very unhealthy, and Dead. Mortality data at W2 was collected during the 2023 follow-up survey, with death status reported by an informant, usually a close relative or friend of the deceased, who

was well-acquainted with the death circumstances. When available, death certificates were used to further confirm the death.

Older participants were asked to describe their health with five possible responses: ‘very healthy’, ‘healthier than average’, ‘of average health’, ‘somewhat unhealthy’, and ‘very unhealthy’. For this analysis, these responses were combined into three categories: 'very healthy' and 'healthier than average' were grouped together, 'of average health' formed a separate category, and 'somewhat unhealthy' and 'very unhealthy' were grouped into another category.

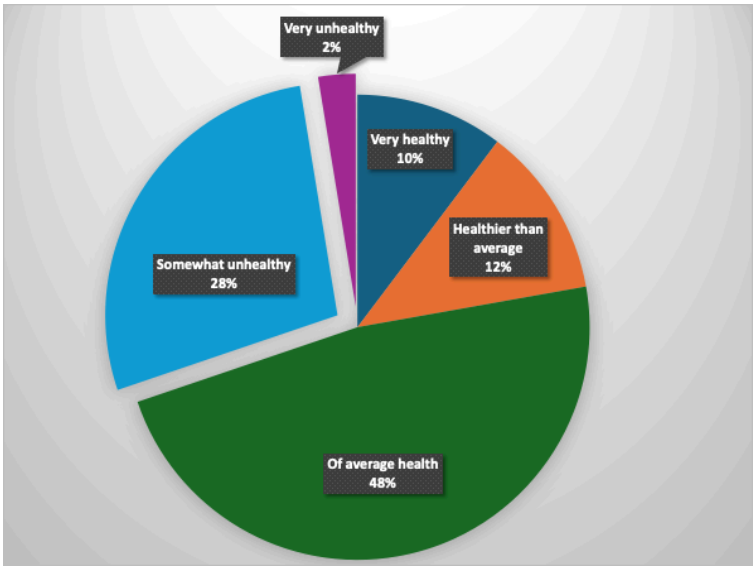
The study also investigated two sets of potential covariates: socio-demographic factors (age, sex, education) and health-related indicators (pain, experience of a fall). The proportion of older people by self-rated health at Wave 1 (W1) was calculated. The IMaCH program will be employed to estimate transition rates with 95% confidence intervals, tracking changes from health status at W1 to health and mortality status at W2. Developed by Brouard and Lievre (2003), IMaCH is used for computing Multistate Life Tables. Multinomial logistic regression will be applied to assess the effect of self-rated health on mortality, controlling for the two sets of covariates (socio-demographic characteristics and health-related indicators).

Using LSAHP linked data, this study aims to: (1) describe the level and differentials of active aging as measured by self-rated health among older Filipinos at W1; (2) Assess the transitions in active ageing in W1 and active ageing and mortality by W2; and (3) Assess the influence of the initial active ageing status in W2 on the likelihood of dying in W2, controlling for socio-demographic characteristics, and health-related experiences, specifically, pain and falls.

Initial Findings

Figure 1 presents the health status of older people in the Philippines. Over one-fifth of Older Filipinos (22%) reported that they are either very healthy or healthier than average while almost half of them (48%) reported that their health status is about average. Three in ten older Filipinos (30%) reported a poor health status, either somewhat or very unhealthy.

Figure 1. Self-reported health status of older Filipinos, LSAHP Wave 1



There is no difference in the reporting of poor health status between males and females; however, an age gradient is evident, with a higher proportion of older Filipinos reporting unhealthy status as age increases (Table 1). Moreover, poor health status is more commonly reported among older Filipinos with less than a high school education, those troubled with pain, and those who have experienced a fall.

Table 1. The proportion of older Filipinos who reported that they are somewhat or very unhealthy by selected background variables, LSAHP W1

Background characteristics	Percent	Number of cases
Sex		
Male	31.5	1898
Female	29.4	3293
Age***		
60-69	25.8	2069
70-79	36.8	2113
80 and older	46.0	1009
Education***		
Low	33.0	3386
High	23.2	1805
Troubled with pain***		
Yes	47.2	1788
No	21.8	3400

Experienced fall in the past 12 months		
Yes	29.6	934
No	30.4	4252
ALL	30.2	5191

Note: *** p-value<.001

The findings of this study offer additional empirical evidence demonstrating that subjective measures of health, like self-reported health, serve as a strong predictor of mortality. Generally, of those who reported that they were in poor health status at baseline, 30% improved and reported good health, while approximately 39% continued to have poor health, and the remaining 31% experienced mortality (see Table 2). The mortality level among those who reported poor health at baseline is significantly higher compared to older people with average (16%) or better health status (15%).

The mortality pattern is consistent across sex and age, though the extent varies by category. For instance, 35% of males who reported poor health at baseline died by follow-up, compared to 28% of females (Table 2). Those in the oldest age group (80 and older) experience higher mortality rates compared to the youngest age group (60-69 years), with rates of 61% versus 21%, respectively. Interestingly, a slightly lower percentage of older Filipinos with less education who reported poor health at baseline (30%) died compared to those with at least a high school education (32%). Since this result contradicts expectations, it requires further investigation.

The mortality patterns observed across health indicators align with both the overall findings and anticipated results. Older Filipinos reporting poor health status and experiencing pain face slightly higher mortality rates compared to those without pain (31% versus 30%). Similarly, those who experienced a fall have a higher mortality level (37%) compared to those who did not experience a fall (29%).

Across all background characteristics and health indicators, a higher proportion of individuals who initially reported better health status at baseline but deteriorated to poor health at follow-up is observed, except among males and those with higher education. Approximately 34% of males who reported poor health at baseline improved to better health, whereas 32% of males who reported good health at baseline experienced a decline to poor health at follow-up. Conversely, 38% of individuals with higher education who reported poor health at baseline improved to a better health status, compared to 29% of those with higher education who reported better health at baseline but deteriorated to poor health status at follow-up.

Table 2. Percent distribution of older Filipinos by self-rated health at Wave 1 by self-rated health and mortality status at Wave 2, LSAHP

Self-rated health status, background characteristics and health-related indicators at W1	Wave 2 Self-rated health and mortality status	TOTAL % (Number of cases)

	Very healthy/ Healthier than average	Of average health	somewhat /very unhealthy	Dead	
Sex					
Male***					
Very healthy/Healthier than average	18.3	49.0	11.5	21.2	100 (326)
Of average health	15.9	42.8	20.9	20.4	100 (737)
Somewhat/very unhealthy	5.3	28.8	31.3	34.7	100 (589)
Female***					
Very healthy/Healthier than average	35.1	31.9	23.0	10.0	100 (492)
Of average health	16.5	47.6	22.8	13.1	100 (1270)
Somewhat/very unhealthy	5.9	21.9	44.7	27.5	100 (996)
Age groups					
60-69***					
Very healthy/Healthier than average	27.8	43.2	20.1	8.9	100 (445)
Of average health	19.2	51.6	21.5	7.7	100 (915)
Somewhat/very unhealthy	4.7	31.4	42.7	21.3	100 (499)
70-79***					
Very healthy/Healthier than average	29.8	28.4	12.6	29.3	100 (294)
Of average health	10.8	34.6	26.3	28.3	100 (802)
Somewhat/very unhealthy	8.8	14.8	37.7	38.7	100 (701)
80 and older***					
Very healthy/Healthier than average	21.6	18.9	13.5	45.9	100 (79)
Of average health	5.0	23.4	12.1	59.6	100 (290)
Somewhat/very unhealthy	2.0	15.8	21.1	61.2	100 (385)
Educational attainment					
Low***					
Very healthy/Healthier than average	20.7	38.6	22.7	17.9	100 (433)
Of average health	15.7	47.1	21.1	16.1	100 (1305)
Somewhat/very unhealthy	5.0	23.6	41.3	30.2	100 (1132)
High***					
Very healthy/Healthier than average	42.1	40.0	9.6	8.4	100(385)
Of average health	17.7	42.4	24.8	15.0	100 (702)
Somewhat/very unhealthy	8.2	29.9	29.9	32.0	100 (453)
Troubled with pain					
Yes***					
Very healthy/Healthier than average	21.4	33.9	20.8	23.8	100 (135)
Of average health	19.2	49.0	20.4	11.5	100 (534)
Somewhat/very unhealthy	4.9	22.9	40.8	31.4	100 (817)
No***					
Very healthy/Healthier than average	29.3	40.1	17.7	12.9	100 (683)
Of average health	15.1	44.5	22.8	17.6	100 (1472)

Somewhat/very unhealthy	6.5	26.8	37.0	29.7	100 (767)
Experienced fall in the past 12 months					
Yes***					
Very healthy/Healthier than average	36.8	43.6	9.2	10.4	100 (131)
Of average health	13.4	52.7	16.4	17.5	100 (327)
Somewhat/very unhealthy	7.5	17.2	38.3	37.0	100 (333)
No***					
Very healthy/Healthier than average	26.3	38.1	20.0	15.5	100 (687)
Of average health	17.0	44.1	23.5	15.5	100 (1677)
Somewhat/very unhealthy	5.3	26.4	38.9	29.4	100 (1250)
ALL***					
Very healthy/Healthier than average	28.0	39.1	18.2	14.7	100 (818)
Of average health	16.3	45.8	22.1	15.8	100 (2007)
Somewhat/very unhealthy	5.7	24.9	38.9	30.5	100 (1585)

Note: *** p-value<.001

Future directions

The following are the next steps needed to deepen the analysis:

1. Examine the severity of pain experienced to refine the pain variable.
2. Investigate the variable on the number of falls experienced in the last 12 months.
3. Consider other physical and mental health indicators such as sleep and depression
4. Estimate health and mortality transition rates from initial self-reported health status to later self-reported health and mortality status at follow-up using IMaCH. Note that we still have to get familiar with the new features of the newly updated IMaCH program released in September 2024.
5. Estimate determinants of mortality controlling for selected background variables and health-related indicators using multinomial logistic regression.

References:

Cruz, G. T., Cruz, C. J. P., & Saito, Y. (2022). Is there compression or expansion of morbidity in the Philippines? *Geriatrics & Gerontology International, 22*(7), 511–515. https://doi.org/10.1111/ggi.14398