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## Ageing, Health Needs and Financial Coverage: Some Insights from the Philippines

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Acknowledgement: Philippine Statistics Authority, Philippine Department of Health, Kathleen L. Azan, MD, Charles Mandy G. Ayran, RPh, PharmD

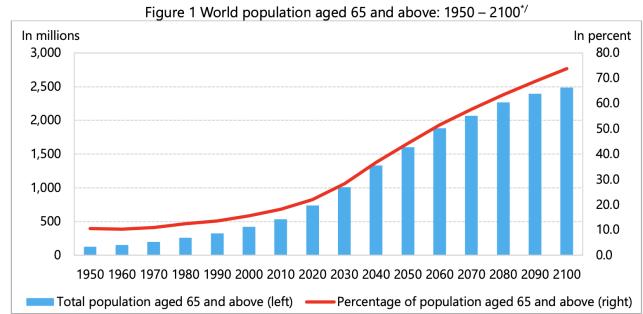
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### **Outline**

- Introduction
- Situationer on the Elderly in the Philippines
- Research Question
- Data and Methodology
- Results and Discussion
- Concluding Thoughts

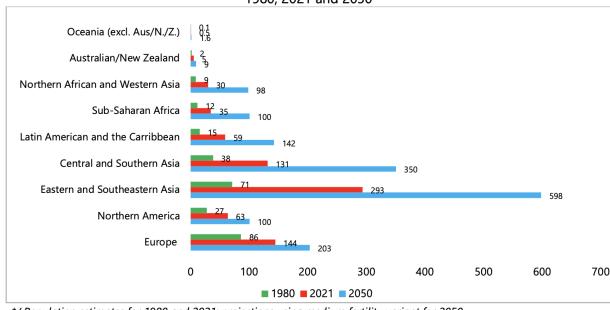


## The world's population is ageing...



\*/ Population estimates for 1950 – 2021 and projections using medium fertility variant for 2022 – 2100. Source of data: United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition.

Figure 2 Total number of people aged 65 and above in the world and by regions, in millions: 1980, 2021 and  $2050^{*/}$ 



\*/ Population estimates for 1980 and 2021; projections using medium fertility variant for 2050.

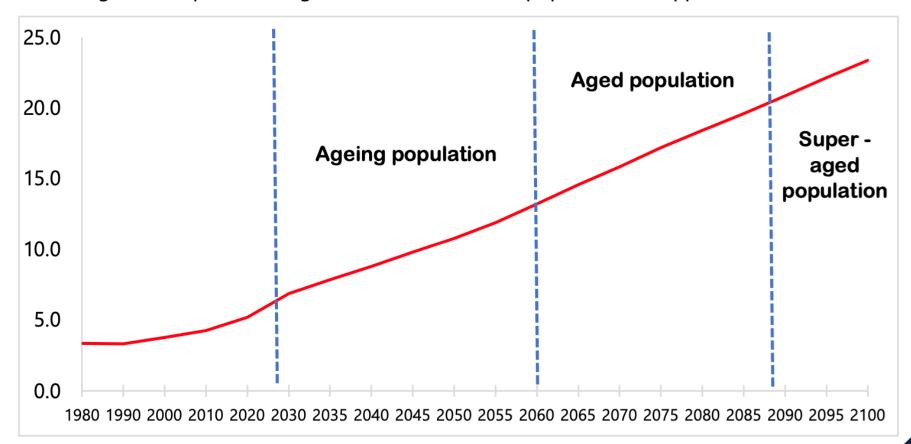
Source of data: United Nations, Department of Economic and Social Affairs, Population Division (2022).

World Population Prospects 2022, Online Edition.



### ... and soon is the Philippines

Figure 3 Proportion of aged 65 and above in the population: Philippines 1980 – 2100\*/



<sup>\*/</sup> Population estimates for 1980 and 2021; projections using medium fertility variant for 2050.

Source of data: United Nations, Department of Economic and Social Affairs, Population Division (2022).

World Population Prospects 2022, Online Edition.



Researc h Question

Can Filipino senior citizens financially cover their basic medication needs?



**Data** 

We use unique data sets coming from the Philippine Department of Health, Philippine Statistics Authority, the academe, and Clinical Practice Guidelines used by Filipino physicians and pharmacists.

• Electronic Drug Price Monitoring System (EDPMS) – which includes 580,135 reported quarterly medicine prices across 3,618 drugstores nationwide.

• Family Income and Expenditure Survey (FIES) – which contains 40, 505 senior citizen sample population

 Longitudinal Study of Ageing and Health in the Philippines (LSAHP)

 10 Clinical Practice Guidelines for the diagnosis and management of hypertension, diabetes, angina, myocardial infarction, renal/urinary tract ailments, and respiratory illnesses



#### Methodology

## We create a profile of a Filipino senior citizen across the 17 regions of the Philippines

- 1. Identified the healthcare condition of a typical senior citizen and medicines usually prescribed
- 2. Computed for the annual basic medical cost using a cost function

$$C_m = (F_{l,c} + \sum_{i,j=1}^{n} (wvQ)_{i,j}) \times 365$$

 $C_m$  is the total annual basic cost of medical needs;

 $F_{l,c}$  is the fixed cost of the standard laboratory test and consultation fee; w is the weight indicated by the percentage of the population of having an illness i; and

v is the variable cost on the quantity Q based on the usual frequency of drug j associated to i.

3. Build the senior citizen's income statements for the average population, private and government



## A typical Filipino senior citizen needs to spend a median amount of at least **PhP 26,019** annually on basic medication costs.

Table 3 List of medicines and frequency per illness according to Philippine Clinical Practice Guidelines.

Illness		<b>Active Pharmaceutical</b>	Usual Frequency
		Ingredient	(times per day)
Uyportonsion		Losartan	1
Hypertension	(45%)	Carvedilol	2
Diabetes	(12.6%)	Metformin	2
Angina	(12.070)	Isosorbide Mononitrate	1
M	(12.2%)	Aspirin	1
Myocardial Infarction		Clopidogrel	1
Renal or urinary tract		Ketoanalogues	3
ailments/kidney	(11.8%)	_	
Respiratory Illness (As	thma,	Salbutamol	3
Emphysema)	(8.5%)		
	(5.5.5)	Laboratory Test	
		Consultation	Once every 3 months

Sources: Philippine Clinical Practice Guidelines and interview with a physician and a pharmacist.

Results & Discussion



<sup>\*</sup> Note that this list only includes the usual first-line drugs to manage these illnesses. It does not include other types which might be more targeted or with special mechanisms of action for specific needs.

## Average Annual Income Statement of the Filipino Senior Citizens, By Regions

Region	Ilocos	Cagayan	C. Luzon	CALA BARZON	Bicol	V. No Visayas	Visayas		IAC	Pesc	Davao	SOCC SKARGEN	NCR	CAR	BARMM	CARAGA	MIMA ROPA
Average Age	70	69	69	68	70	70	69	70	68	69	69	68	68	69	67	69	69
INCOME																	
Wages	43,350	46,500	85,835	95,700	26,950	50,388	59,272	24,000	30,000	48,182	46,800	39,130	196,872	47,975	-	36,960	26,750
Remittance (abroad)	66,978	33,960	48,449	39,703	17,183	41,786	41,986	24,320	21,440	28,370	17,784	24,107	34,726	27,908	10,898	19,723	21,712
Remittance (domestic)	22,855	17,973	16,906	19,752	29,429	22,948	22,702	28,003	23,864	18,978	18,086	17,923	16,508	20,570	10,023	21,005	27,119
Pension	25,614	15,511	24,416	32,830	21,931	27,969	28,558	24,516	21,651	27,811	17,388	16,433	36,351	26,545	4,218	25,295	17,730
Gov't	92,783	75,135	71,395	90,843	42,953	30,880	84,275	97,462	106,809	34,417	74,364	58,665	50,699	95,073	43,884	59,044	82,747
Private	27,444	37,021	42,308	52,264	18,912	24,023	44,203	67,973	32,766	49,280	38,734	20,958	39,253	33,773	53,306	14,397	33,773
Others																	
Total Income	309,436	278,203	352,694	368,912	232,828	300,059	333,269	248,403	251,120	265,382	235,213	255,898	494,894	320,853	166,900	240,752	245,102
EXPENSES																	
Food	86,402	73,397	114,226	105,668	83,397	87,451	80,951	79,121	75,241	76,841	73,395	82,105	135,043	75,324	74,393	77,949	71,711
Non-Food	113,357	96,741	168,561	175,999	104,611	130,906	132,641	111,195	86,302	110,798	84,411	104,155	246,229	122,921	51,599	106,219	93,556
Med. Cost*	26,019	21,625	21,967	17,911	22,320	18,472	20,623	26,082	22,072	23,826	22,571	21,368	20,951	24,437	19,694	18,242	21,616
Others																	
Total Expenditure	199,759	170,137	282,787	281,667	188,008	218,357	213,592	190,316	161,544	187,639	157,806	186,260	381,272	198,245	125,992	184,169	165,268
Net Income	109,677	108,066	69,907	87,245	44,820	81,702	119,677	58,087	89,576	77,743	77,407	69,638	113,622	122,608	40,908	56,583	79,834
Net Income (less wage, remittance)	(24,506)	(2,367)	(141,283)	(131,714)	(32,342)	(50,610)	(43,283)	(18,236)	10,272	(44,787)	(21,763)	(23,222)	(309,134)	26,155	19,987	(21,105)	<b>4,25</b> 3

Sources: 2018 Family Income and Expenditure Survey, Authors' Computation

Results & Discussion



<sup>\*</sup>Med. Cost is the computed annual basic medical cost of a typical Filipino senior citizen

<sup>\*\*</sup>Other income and expenses were not accounted to condense the income statement.

# On average, Filipino senior citizens across all regions can afford their annual expenses **only if they are receiving additional income (i.e., wages and remittances)**

Results & Discussion

A.1 Average Annual In	ncome Statement of the	Filipino Senior	Citizens, by Regions

								(in Philippir	ne Peso)			_											
Region	Ilocos	Cagayan	C. Luzon	CALA BARZON	Bicol	W. Visayas	C. Visayas	E. Visayas	Zamb.	N. Mindanao	Davao	SOCC SKARGEN	NCR	CAR	BARMM	CARAGA	MIMA ROPA						
Average Age	70	69	69	68	70	70	69	70	68	69	69	68	68	69	67	69	69						
INCOME																							
Wages		43,350	46,500	n	85,835	95	,700	26,950	50,3	388	59,272	24,000	30,0	00	48,182	4	6,800	39,130	196,872	47,975	_	36,960	26,750
Remittance		13,330	40,50	•	03,033	33	,,,,,,	20,550	30,	300	33,212	24,000	30,0	00	40,102	-	0,000	33,130	130,012	41,513		30,300	20,130
(abroad)	(	56,978	33,960	0	48,449	39	,703	17,183	41,	786	41,986	24,320	21,4	40	28,370	1	7,784	24,107	34,726	27,908	10,898	19,723	21,712
Remittance (domestic)		22,855	17,97	2	16,906	10	,752	29,429	22.0	948	22,702	28,003	23,8	6.1	18,978	1:	8,086	17,923	16,508	20,570	10,023	21,005	27,119
(domestic)	-	22,033	17,57	,	10,500	19	,132	23,423	22,3	<del>54</del> 6	22,102	20,003	23,0	04	10,570	''	0,000	17,923	10,308	20,570	10,023		
Private	27,444	37,021	42,308	52,264	18,912	24,023	44,203	67,973	32,766	49,280	38,734	20,958	39,253	33,773	53,306	14,397	33,773						
Others																						, , , , ,	The second
Total Income	309,436	278,203	352,694	368,912	232,828	300,059	333,269	248,403	251,120	265,382	235,213	255,898	494,894	320,853	166,900	240,752	245,102						
EXPENSES																							
Food	86,402	73,397	114,226	105,668	83,397	87,451	80,951	79,121	75,241	76,841	73,395	82,105	135,043	75,324	74,393	77,949	71,711						
Non-Food	113,357	96,741	168,561	175,999	104,611	130,906	132,641	111,195	86,302	110,798	84,411	104,155	246,229	122,921	51,599	106,219	93,556					· · · · · ·	
Med.																							
Cost*	26,019	21,625	21,967	17,911	22,320	18,472	20,623	26,082	22,072	23,826	22,571	21,368	20,951	24,437	19,694	18,242	21,616						
Others																							
Net Income																							
	10	09,677	108,06	6	69,907	87	,245	44,820	81,	702 1	119,677	58,087	89,5	76	77,743	7	7,407	69,638	113,622	122,608	40,908	56,583	79,834
Net Income																							
(less wage, remittance)	(2	4,506)	(2,367	') (1	41,283)	(131,	714)	(32,342)	(50,6	10) (	43,283)	(18,236)	10,2	72	(44,787)	(21	,763)	(23,222)	(309,134)	26,155	19,987	(21,105)	4,253

Sources: 2018 Family Income and Expenditure Survey, Authors' Computation



<sup>\*</sup>Med. Cost is the computed annual basic medical cost of a typical Filipino senior citizen

<sup>\*\*</sup>Other income and expenses were not accounted to condense the income statement.

- Annual basic medication needs are about 30 percent higher than average pension, two times higher than private pension, and about 35 percent of average government pension.
- Only 10 percent have government pension, 24 percent private pension, and 66 percent have no pension (FIES, 2018)
- Incorporating food and other non-food expenses, Filipino senior citizens might not financially cover their basic medication
   Classification each of the cover their basic medication

Results & Discussion



- The Philippines is no exception to ageing population.
- Increase share in Filipino senior citizens will raise demand for health care and related services; this will also put pressure on social security, insurance and pension systems.
- We find that Filipino senior citizens are able to afford their annual expenses (including their medication needs) only if they are receiving additional income (e.g., wages or remittances).
- There are several protection programs for the Philippines (e.g., Expanded Senior Citizens Act of 2010, mandatory pension and health insurance, etc.). Nonetheless, access, awareness, and timely delivery are rooms for improvement.





Ageing trend is deemed irreversible. Thus, we need to strengthen our social and financial security policies not just for the elderly, but also for the future generations to come.





### Thank You!

Research Note will soon be available at the BSP Website. For concerns, you may email LomibaoNG@bsp.gov.ph



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Annex A.2 Average Medical Annual Income Statement of the Filipino Senior Citizens with Private Pension, by Regions (in Philippine Peso)

Region	llocos	Cagayan	C. Luzon	CALA BARZON	Bicol	W. Visayas	C. Visayas	E. Visayas	Zamb.	N. Mindana o	Davao	SOCC SKARGEN	NCR	CAR	BARMM	CARAGA	MIMA ROPA
Average Age	71	71	71	69	72	71	70	71	70	70	69	69	70	70	69	71	70
INCOME																	
Wages	99,580	121,136	146,594	187,418	89,002	97,045	155,532	131,870	102,346	130,106	115,704	93,638	255,962	129,857	65,551	77,869	70,656
Remittance (abroad)	69,820	36,207	62,594	54,597	18,998	46,678	63,690	34,170	25,128	45,766	32,250	26,056	40,436	42,394	13,298	20,153	40,380
Remittance (domestic)	23,739	20,199	18,027	19,419	29,163	22,542	19,885	30,053	22,731	21,381	16,116	19,886	16,837	21,641	12,520	20,839	30,197
Priv. Pension	27,444	37,021	42,308	52,264	18,912	24,023	44,203	67,973	32,766	49,280	38,734	20,958	39,253	33,773	53,306	14,397	33,773
Others																	
Total Income	334,897	327,307	428,411	475,214	250,751	313,782	473,338	426,630	354,611	402,698	347,873	271,106	536,836	401,813	217,176	217,707	319,831
EXPENSES																	
Food	84,926	76,368	120,175	116,277	86,673	90,370	97,632	100,252	81,393	96,221	89,263	82,483	135,928	78,740	81,773	72,413	79,522
Non-Food	128,324	114,546	209,471	237,716	117,067	144,366	216,626	202,664	115,880	183,507	129,431	114,102	273,229	169,648	81,464	94,217	136,072
Med. Cost	26,019	21,625	21,967	17,911	22,320	18,472	20,623	26,082	22,072	23,826	22,571	21,368	20,951	24,437	19,694	18,242	21,616
Others																	
Total Expenditure	213,250	190,913	329,646	353,993	203,740	234,736	314,258	302,916	197,273	279,728	218,694	196,584	409,156	248,388	163,237	166,630	215,595
Net Income	121,647	136,393	98,765	121,220	47,011	79,047	159,079	123,714	157,338	122,970	129,179	74,521	127,679	153,424	53,939	51,077	104,236
Net Income (less wage, remittance)	(71,491)	(41,148)	(128,450)	(140,213)	(90,152)	(87,219)	(80,028)	(72,378)	7,134	(74,283)	(34,891)	(65,059)	(185,555)	(40,468)	(37,430)	(67,783)	(36,998)

Sources: 2018 Family Income and Expenditure Survey, Authors' Computation



<sup>\*</sup>Med. Cost is the computed annual basic medical cost of a typical Filipino senior citizen

<sup>\*\*</sup>Other income and expenses were not accounted to condense the income statement.

Annex A.3 Average Medical Annual Income Statement of Filipino Senior Citizens with Government Pension, by Regions (in Philippine Peso)

			$\overline{}$													$\overline{}$	-
Region	llocos	Cagayan	C. Luzon	CALA BARZON	Bicol	W. Visayas	C. Visayas	E. Visayas	Zamb.	N. Mindanao	Davao	SOCC SKARGEN	NCR	CAR	BARMM	CARAGA	MIMA ROPA
Average Age	73	72	71	71	72	71	71	72	69	70	69	68	71	71	72	70	71
INCOME																	
Wages	121,255	175,341	164,928	172,602	97,112	115,491	223,250	220,795	173,827	86,200	118,091	110,495	246,990	192,480	63,269	159,560	121,962
Remittance																	,
(abroad)	76,581	44,172	76,554	42,745	29,834	36,578	71,341	65,313	73,474	34,674	33,230	53,608	33,956	34,605	42,219	33,920	44,477
Remittance																	
(domestic)	19,707	25,756	17,329	20,433	27,772	28,968	17,374	24,104	18,019	24,357	26,107	16,822	21,115	19,390	16,225	23,932	31,614
Gov. Pension	92,783	75,135	71,395	90,843	42,953	30,880	84,275	97,462	106,809	34,417	74,364	58,665	50,699	95,073	43,884	59,044	82,747
Others																	
Total Income	499,862	541,148	540,396	533,990	340,666	339,765	642,350	663,042	608,159	298,686	483,618	402,405	559,015	611,570	278,024	456,533	472,169
EXPENSES																	,
Food	98,817	93,768	132,154	121,976	98,535	90,557	119,623	130,654	123,086	82,115	101,349	104,514	133,885	99,175	78,590	109,981	100,909
Non-Food	186,581	197,679	257,363	282,286	161,753	156,089	261,736	312,313	231,410	127,924	203,579	195,044	273,789	222,485	89,394	219,563	194,617
Med. Cost	26,019	21,625	21,967	17,911	22,320	18,472	20,623	26,082	22,072	23,826	22,571	21,368	20,951	24,437	19,694	18,242	21,616
Others																	'
Total																	
Expenditure	285,399	291,447	389,517	404,262	260,288	246,646	381,359	442,968	354,496	210,039	304,928	299,557	407,673	321,660	167,984	329,545	295,525
Net Income	214,463	249,702	150,878	129,728	80,378	93,119	260,991	220,074	253,663	88,647	178,690	102,848	151,342	289,911	110,039	126,988	176,644
Net Income																	
(less wage,																	
remittance)	(3,081)	4,432	(107,932)	(106,052)	(74,339)	(87,918)	(50,973)	(90,138)	(11,657)	(56,584)	1,261	(78,077)	(150,720)	43,435	(11,673)	(90,423)	(21,409)
Cources: Eamily Inco	ma and Evn	anditura Cur	and Authors' C	'amnutation													

Sources: Family Income and Expenditure Survey, Authors' Computation



<sup>\*</sup>Med. Cost is the computed annual basic medical cost of a typical Filipino senior citizen

<sup>\*\*</sup>Other income and expenses were not accounted to condense the income statement.

Annex A.4 Average Medical Annual Income Statement of the Filipino Senior Citizens with No Pension, by Regions (in Philippine Peso)

Region	llocos	Cagayan	C. Luzon	CALA BARZON	Bicol	W. Visayas	C. Visayas	E. Visayas	Zamb.	N. Mindanao	Davao	SOCC SKARGE N	NCR	CAR	BARMM	CARAGA	MIMA ROPA
Average Age	69	68	68	68	68	68	69	69	68	68	68	67	67	69	67	66	68
INCOME																	
Wages	102,811	94,224	146,827	158,506	76,873	119,226	114,126	66,969	70,941	98,555	77,242	88,410	269,471	101,273	40,016	97,323	75,959
Remittance	65.000	22.525	44.050	24047	40.044	40.422	22.007	40.300	45.204	22.545	40.747	20.404	20.404	22.004	0.020	47.256	16.353
(abroad) Remittance	65,238	32,685	41,252	34,947	12,914	40,133	33,807	19,302	15,301	22,545	12,747	20,494	30,124	22,901	9,932	17,356	16,352
(domestic)	23,137	16,837	16,552	19,768	30,138	20,468	23,879	28,126	24,676	16,905	18,261	16,643	15,042	20,483	9,746	20,427	26,128
Pension	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-
Others																	
Total Income	286,882	247,129	309,627	319,142	194,551	279,419	270,471	190,006	188,982	221,988	189,533	235,776	445,006	266,409	161,589	219,047	211,925
EXPENSES																	!
Food	86,158	71,127	110,201	100,709	77,792	85,037	73,129	71,941	69,081	70,642	67,434	80,298	134,416	71,849	73,885	77,658	67,928
Non-Food	102,206	84,923	146,800	146,306	83,224	112,979	101,042	82,111	64,314	88,475	65,345	91,229	217,271	98,263	49,295	94,175	76,700
Med. Cost	26,019	21,625	21,967	17,911	22,320	18,472	20,623	26,082	22,072	23,826	22,571	21,368	20,951	24,437	19,694	18,242	21,616
Others																	I
Total													"	"			
Expenditure	188,364	156,050	257,001	247,015	161,016	198,016	174,172	154,053	133,395	159,117	132,779	171,527	351,687	170,112	123,180	171,832	144,629
Net Income	98,518	91,079	52,626	72,127	33,535	81,403	96,299	35,953	55,587	62,871	56,754	64,249	93,319	96,297	38,410	47,214	67,297
Net Income																	
(less wage, remittance)	(92,668)	(52,667)	(152,005)	(141,094)	(86,390)	(98,424)	(75,512)	(78,443)	(55,332)	(75,133)	(51,496)	(61,299)	(221,318)	(48,360)	(21,284)	(87,892)	(51,142)
Sources: Family						(30,424)	(13,3.2)	(10,443)	(33,332)	(13,133)	(31,430)	(01,233)	(221,310)	(40,500)	(E1,E0-7)	(07,032)	(31,142)

Sources: Family Income and Expenditure Survey, Authors' Computation



<sup>\*</sup>Med. Cost is the computed annual basic medical cost of a typical Filipino senior citizen

<sup>\*\*</sup>Other income and expenses were not accounted to condense the income statement.