2018 Health Expenditures of Vulnerable Population Segments: Insight from the Philippine National Health Accounts

The Coronavirus disease 2019 (COVID-19) pandemic is certainly expected to cause serious stress to the Philippine healthcare system. In many instances, public health officials and experts have cited that some segments of the population are affected more severely than others. Different cohorts finance their expenditures in different ways. As such, it may be of interest to policy makers how different segments of the population are financing the health care services they receive.

The goal of this exercise is to describe health expenditures of the population segment vulnerable to COVID-19 using the 2011 System of Health Accounts (SHA 2011) framework as the analytic framework for discussions. (The SHA 2011 is a framework stipulating the systematic description on the financial flows related to health care which was developed by the Organization for Economic Cooperation and Development (OECD), European Statistical Office (Eurostat) and the World Health Organization (WHO) with the objective of describing the health care system from an expenditure perspective both for international and national purposes.) This exercise seeks to provide insight to the following questions: How much are population segment vulnerable to COVID-19 paying for their healthcare? Who are the agents paying for their healthcare? And how are they receiving healthcare?

The succeeding analysis was based on the 2018 Philippine National Health Accounts (PNHA) results. As such, the indicators are limited to those related to health financing. Health statistics, such as interventions and outcomes, are not a part of this analysis. Indicators are also limited to those details that are available from the PNHA.

The indicators in this exercise were generated using *Stata software* rather than the *Health Accounts Production Tool (HAPT)* program which was recommended by the WHO to generate national health accounts (NHA), e.g., the 2018 PNHA. As such, there were slight differences from the PNHA data published in October 2019 and the data presented in this document.

The first source of difference is the level of precision in the compilation/computations. *Stata software* limits the number of decimal places it can store to 16, while the precision of HAPT is at decimal 5 places. Slight rounding differences from the 45 million data lines are likely to compound to a noticeable amount. Another source of difference is the adjustments made at the aggregate level which cannot be trickled down to the details. However, various validation efforts were made to ensure the differences between the results provided below and the published estimates were minimal and that structure of health care expenditures are maintained.

The answers to the questions enumerated above require information that is more granular than those that are available in the results of the published 2018 PNHA. The advantage of using *Stata software* is that it allows for tabulations of health expenditures that are not typically generated by HAPT. Three-way tabulations (e.g., Age x Financing Scheme x Quintile table) are among those that are impossible to generate using HAPT.

1. How much are the vulnerable population spending on health care?

a. *Ages 60 and above*

Various sources[1][2] have identified the elderly population (i.e., aged 60 and above) as among those that are likely to be severely or critically ill from COVID-19. The morbidity rate for the said cohort is likewise high.

Based on the results of the 2018 PNHA, health expenditures for individual aged 60 and above accounted for 22.0 percent of the total current health expenditures. In particular, health expenditures for persons aged 65 and above in 2018 accounted for 13.1 percent of the total. This was larger than the expenditure of any other population age group during the reference year. (Table 1)

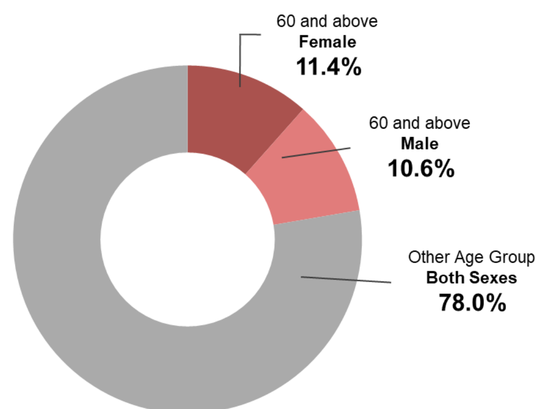

Figure 1.1: Health Expenditures by Age and Sex Groups

b. *Comorbidities*

As with the elderly, individual with chronic conditions are identified likely to be severely or critically ill from COVID-19. The clinical guidelines[3] released by the Philippine Society of Microbiology and Infectious Diseases (PSMID)[4] and the Department of Health identified the following conditions as comorbidities to severe and critical cases of COVID-19: active cancers, chronic diabetes, chronic hypertension, and respiratory diseases. Studies[5] based on earlier data from other countries have citied the same list of illness as comorbidities and added that those that are immunocompromised are also likely to be severe.

[1]Lai, C.C., Shih, T.P., Ko, W.C., Tang, H.J. and Hsueh, P.R., 2020. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges. *International journal of antimicrobial agents*, p.105924.
[2]Abrigo, M.R., Uy, J., Haw, N.J., Ulep, V.G.T. and Francisco-Abrigo, K., 2020. *Projected Disease Transmission, Health System Requirements, and Macroeconomic Impacts of the Coronavirus Disease 2019 (COVID-19) in the Philippines* (No. 2020-15). Discussion Paper Series.
[3]https://www.psmid.org/cpg-for-covid-19-ver-2-1-as-of-march-31-2020
[4] The same guideline endorsed by the Department of Health
[5] Lai, C.C., Shih, T.P., Ko, W.C., Tang, H.J. and Hsueh, P.R., 2020. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges. International journal of antimicrobial agents, p.105924.

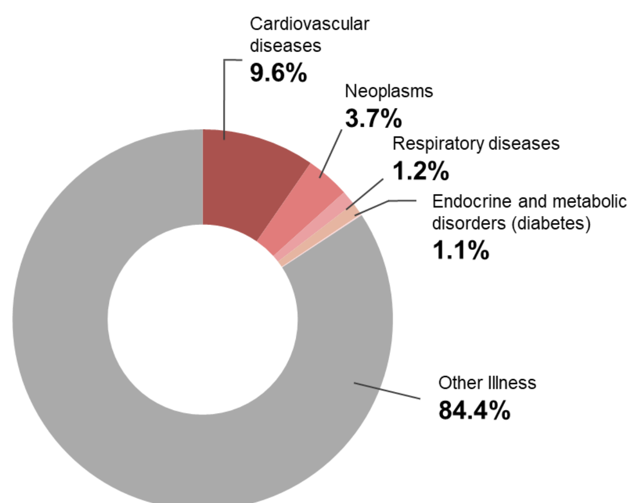

Figure 1.2: Health Expenditures by Disease

Based on the 2018 PNHA, around 15.7 percent of current health expenditures were spent on the treatment/management of illnesses that are correlated with severe and critical cases of COVID-19. Among them, expenditures on cardiovascular diseases were the highest, accounting for 9.6 percent of the current health expenditures in 2018. (Table 2)

c. Age and Comorbidities

Around twenty-six percent (25.9%) or PhP 44.4 billion of the health care expenditures of people 60 and above were allocated to the treatment/management of diseases that are identified as comorbidities of COVID-19. This was higher by 10.1 percentage points compared to the statistics for all age groups. (Table 3)

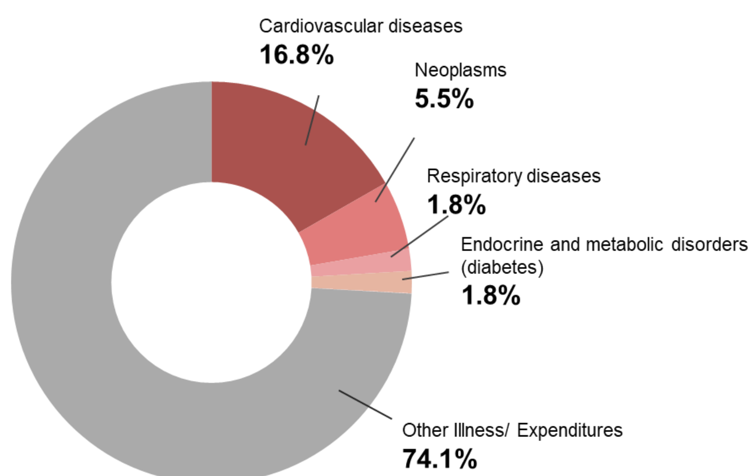

Figure 1.3: Health Expenditures for Comorbidities of COVID-19 for Age 60 and Above

In particular, the share of expenditures on cardiovascular diseases was also higher at 16.8 percent, up by 7.2 percentage points compared to the expenditure for the entire population. (Table 3)

2. How are they paying for their healthcare?

a. Ages 60 and above

More than half (59.0 %) of the health care expenditures of individuals 60 and above were financed through Out-of-Pocket Payments. Social Health Insurance Schemes, the scheme delivered by PhilHealth, accounted for the second largest share of expenditures at 19.0 percent. Direct expenditures by the National and Local Governments schemes accounted for 9.5 percent and 5.9 percent, respectively, of the expenditures by individuals 60 and above. (Table 4)

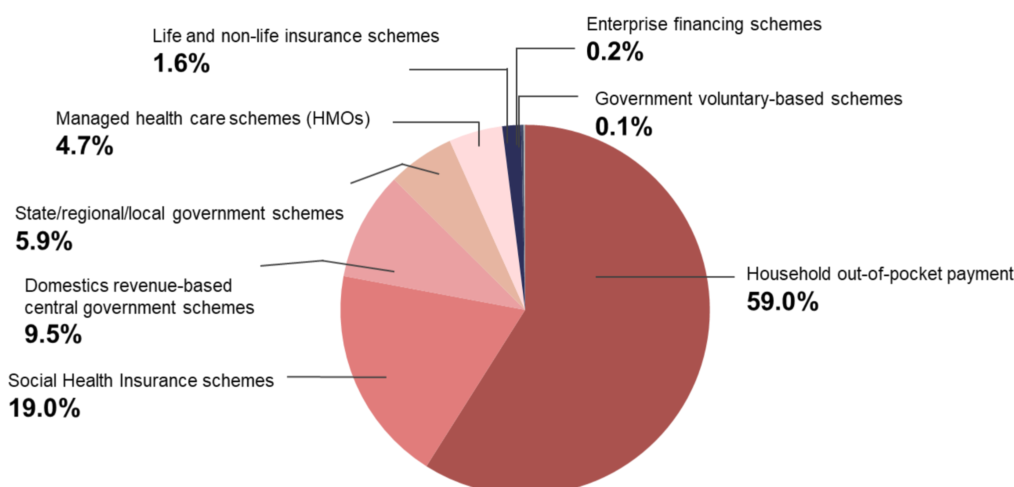

Figure 2.1: Health Expenditures for Age 60 and Above by Financing Scheme

b. Comorbidities

Likewise, more than half (54.9 %) of the health care expenditures of individuals with identified comorbidities to COVID-19 were paid through Out-of-Pocket Payments while about 20.9 percent were financed through Social Health Insurance. Direct expenditures by the National and Local Governments schemes accounted for 6.8 percent and 6.1 percent, respectively, of the expenditures by individuals 60 and above. (Table 5)

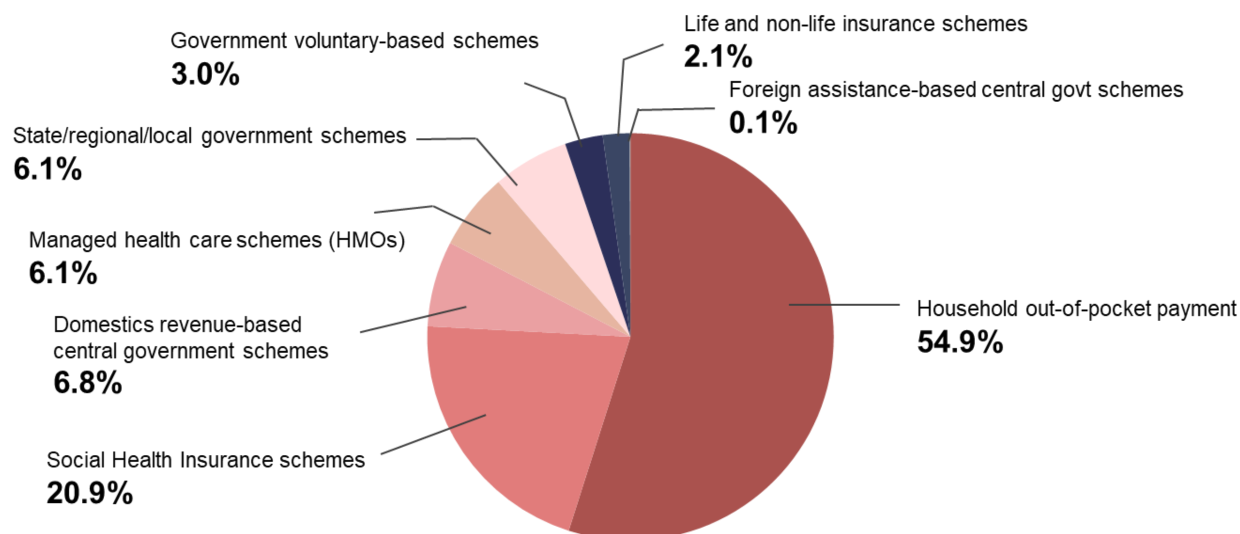

Figure 2.2: Health Expenditures for Comorbidities of COVID-19 by Financing Scheme

c. 60 and above by Quintile

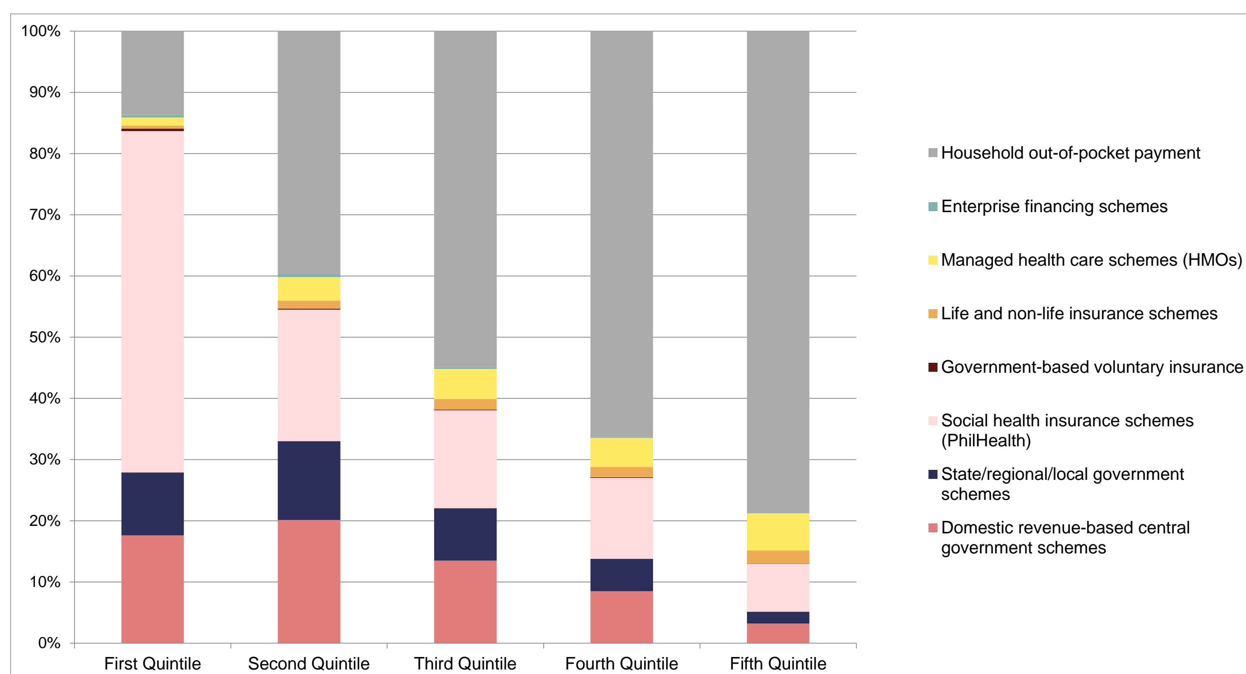

Figure 2.3: Health Expenditures for Age 60 and Above, by Financing Scheme and Quintile

Individuals aged 60 years old and above belonging to the First Quintile (bottom 20 percent of income earners) financed their health expenditures mostly through Social Health Insurance Scheme, the scheme delivered by PhilHealth. Social Insurance Scheme accounted for 55.8 percent of the total financing of the first quintile. Health financing by the National Government, through Domestic Revenue-based Central Government Schemes, and Local Governments accounted for 17.6 percent and 10.3 percent, respectively. Out-of-Pocket spending accounted for 13.7 percent of health expenditures for the First Quintile. (Table 10)

The share of Out-of-Pocket financing to health expenditures gradually declined with the increase in the income bracket. For the Fifth Quintile, majority (78.7%) of their health expenditures were financed through Out-of-Pocket Payments. (Table 10)

3. *Comorbidities by Quintile*

Spending of individuals in the first quintile on ailments that are considered comorbidities of COVID-19 were financed mostly through Government-based Voluntary Schemes (GSIS and SSS). Government-based Voluntary Schemes accounted for 57.2 percent of health financing for the First Quintile. Social Health Insurance Schemes accounted for 9.8 percent of health expenditures for the said quintile. Meanwhile, Out-of-Pocket Payments accounted for 11.5 percent of health expenditures. (Table 11)

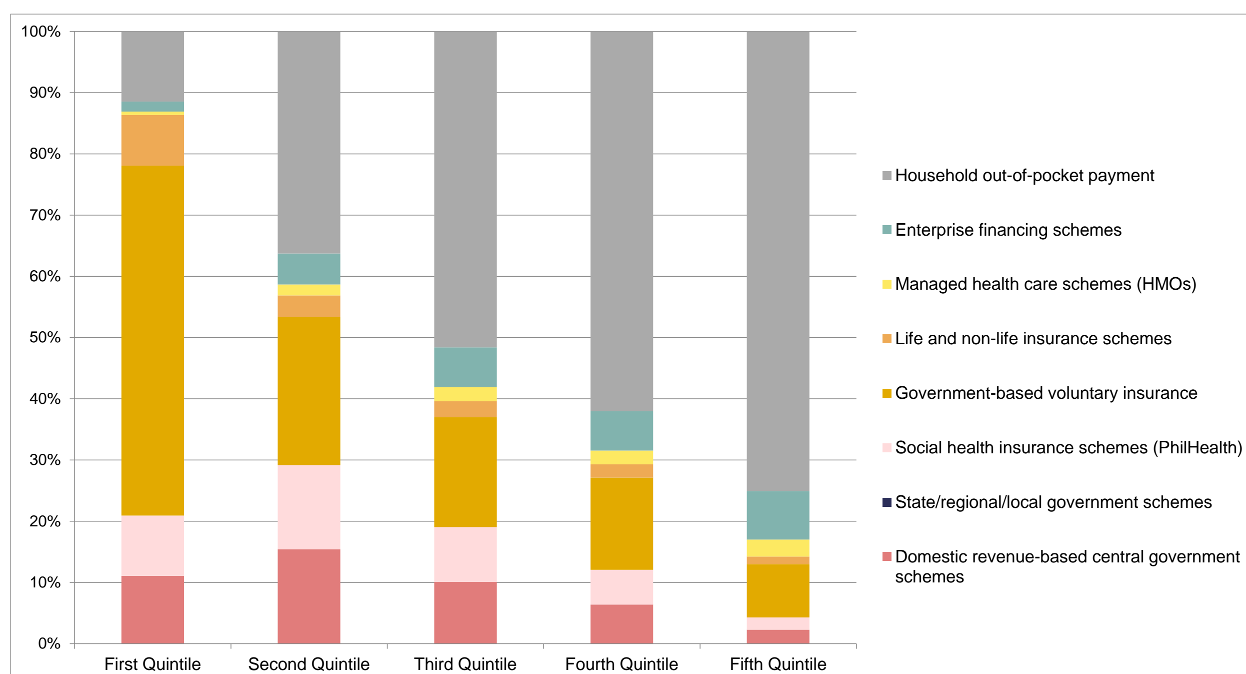

Figure 2.4 Health Expenditures for Comorbidities of COVID-19, by Financing Scheme and Quintile

For individuals in the Fifth Quintile and are spending for ailments that are comorbidities to COVID-19, Out-of-Pocket Payments accounted for 75.1 percent of their health expenditures. (Table 11)

4. Who is paying for their healthcare?

a. *Ages 60 and above*

In terms of financing agents, households paid about 59.0 percent of expenditures of persons aged 60 and above. The Philippine Health Insurance Corporation (PhilHealth) financed 19.8 percent of their expenditures, 6.5 percent was paid by the Department of Health (DOH), while Health Management and Provider Corporations (Health Maintenance Organizations) and Commercial Insurance Companies jointly accounted for 6.5 percent of spending for the age group. (Table 6)

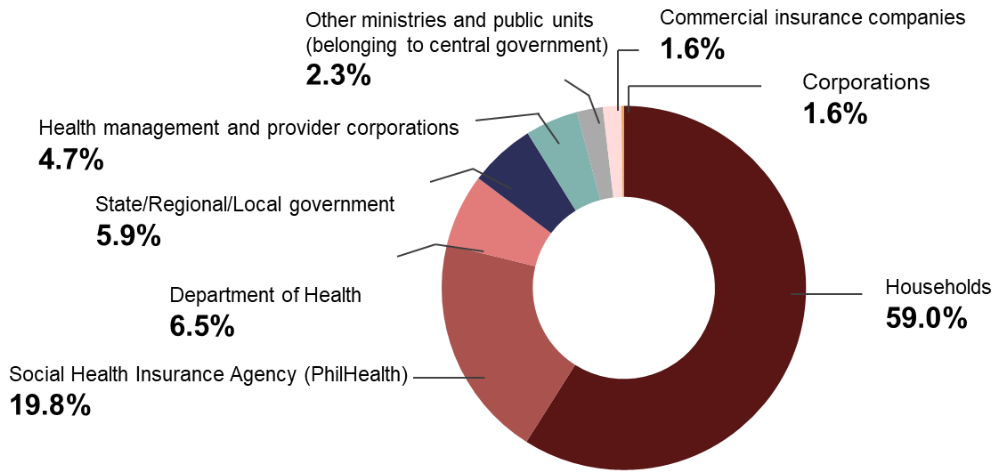

Figure 3.1: Health Expenditures for Age 60 and Above by Financing Agent

b. Comorbidities

For people with comorbidities to COVIDS-19, households paid for about 54.9 percent of expenditures in 2018. PhilHealth financed about a quarter of their expenditures related to their illness while the DOH accounted for 4.9 percent of expenditures for the said cohort. Expenditures by Health Management and Provider Corporations (HMOs) and Commercial Insurance Companies jointly accounted for 8.2 percent of spending for the said individuals. (Table 7)

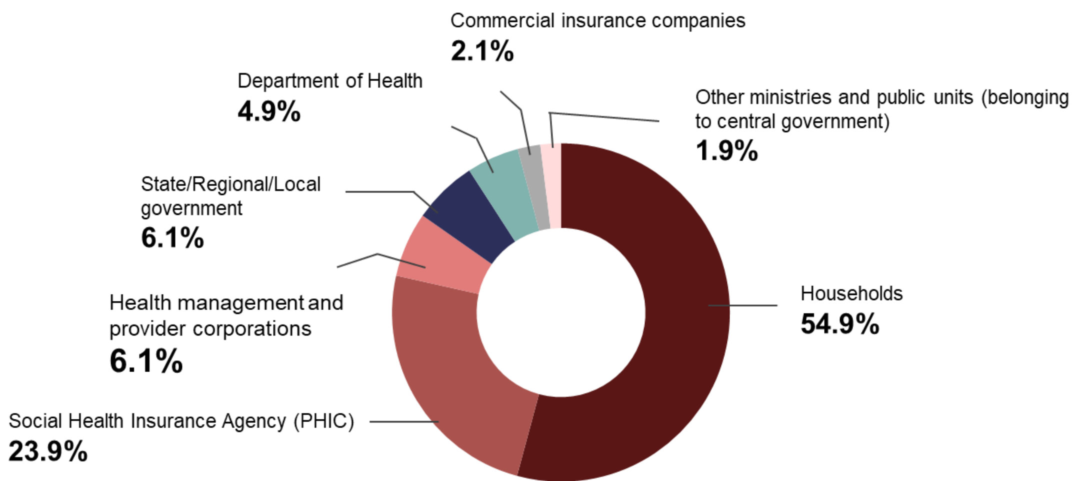

Figure 3.2: Health Expenditures for Comorbidities of COVID-19 by Financing Agent

5. How are they receiving healthcare?

a. Ages 60 and above

Around 33.0 percent of the expenditures for individuals aged 60 years old and above went to Pharmacies. More than a quarter (25.4 percent) of the spending was spent on Private General Hospital services while 22.2 percent was spent for Public General Hospitals. (Table 8)

Table A: Health Expenditures for Age 60 and Above by Health Care Providers

Health care providers	Both Sexes for Age 60 and Above	
	Levels	Share to Total
Hospitals		
General hospitals		
Public general hospitals	38,073	22.2
Private general hospitals	43,523	25.4
Mental health hospitals	277	0.2
Specialised hospitals (Other than mental health hospitals)	1,325	0.8
Unspecified hospitals (n.e.c.)	963	0.6
Mental health and substance abuse facilities	50	0.0
Providers of ambulatory health care	12,286	7.2
Providers of ancillary services	361	0.2
Retailers and Other providers of medical goods		
Pharmacies	56,604	33.0
Providers of preventive care	2,558	1.5
Providers of health care system administration and financing		
Government health administration agencies	2,966	1.7
Social health insurance agencies	1,284	0.7
Private health insurance administration agencies	3,142	1.8
Other administration agencies	56	0.0
Unspecified health care providers	8,079	4.7
Total	**171,547**	**100.0**

b. Comorbidities

For individual with illnesses that are considered comorbidities to COVID-19, the largest share of their expenditures related to treatment and management of their illness were spent on Private General Hospitals. Expenditures for the said health care providers accounted for 33.3 percent of the spending for the said group. Expenditures for Public General Hospitals accounted for 29.2 percent of the spending for the cohort while Pharmacies accounted for only 18.0 percent. (Table 9)

Table B: Health Expenditures for Comorbidities of COVID-19 by Health Care Provider

Health care provider	All Comorbidities	
	Levels	Share to Total
Hospitals		
General hospitals		
Public general hospitals	36,208	29.2
Private general hospitals	41,322	33.3
Mental health hospitals	-	0.6
Specialised hospitals (Other than mental health hospitals)	992	0.8
Unspecified hospitals (n.e.c.)	-	9.1
Mental health and substance abuse facilities	-	-
Providers of ambulatory health care	11,306	-
Providers of ancillary services	339	0.3
Retailers and Other providers of medical goods	-	-
Pharmacies	22,315	18.0
Providers of preventive care	70	0.1
Providers of health care system administration and financing	10	-
Government health administration agencies	-	0.0
Social health insurance agencies	-	-
Private health insurance administration agencies	2,926	2.4
Other administration agencies	-	0.6
Unspecified health care providers	7,187	5.8
Total	**122,674**	**100.0**