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The National Health Accounts of the Philippines: Continuing Development and New Findings

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ABSTRACT

For more than a decade now, the national health accounts (NHA) of the Philippines has been providing data that are important for health policymaking. Information from the NHA provided part of the argument that led to the passage of the National Health Insurance Act of 1995. The NHA was also used as a key guide in the formulation of the Health Sector Reform Agenda of 1999 and the implementing framework of the *FOUR*mula *ONE* for Health of 2005. At present, the NHA not only continues to be important for health policymaking. It has also become indispensable as a tool for monitoring and tracking outcomes of health sector policies. To further expand its usefulness, the Philippine NHA underwent major restructuring, specifically in the classification of health expenditures by uses of funds. The revised NHA now includes several types of breakdown by uses of funds. These new breakdowns are by health provider, by health care function, by geo-

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graphic unit or province, by age of the beneficiary of health care, and by income group of the beneficiary of health care. Analysis of preliminary 2003 estimates of the revised NHA matrices reveals new details of the manner by which health funds are utilized in the Philippines—data that are not available in the original NHA.

INTRODUCTION

The national health accounts (NHA) of the Philippines provides annual estimates of the country's health care expenditures and is part of the national data system. It was developed in the 1990s, a decade that saw the implementation of major changes in the health sector. These changes resulted from the passage of the Local Government Code (RA 7169) in 1991, the National Health Insurance Act (RA 7875) in 1995, and the 1999–2004 Health Sector Reform Agenda. Information from the NHA provided part of the argument that led to the passage of the National Health Insurance Act. The NHA was also used as a key guide in the formulation of the 1999 Health Sector Reform Agenda of 1999 and the implementing framework for health sector reforms articulated in *FOUR*mula *ONE* for Health of 2005. At present, the NHA not only continues to be important for health policymaking. It has also become indispensable as a tool for goal and target setting and for monitoring and tracking the outcomes of policy changes in the health sector.

The successful integration of the NHA into the Philippine health policy process may be traced to the initial circumstances and course of its development. First, the development of the NHA was primarily motivated by the need for information to identify health sector reforms. Thus, the NHA had been designed with concrete policy analyses and uses in mind. Second, the development of the NHA was built into and made part of a major Department of Health (DOH) project—the Health Finance Development Project (HFDP)—that undertook pilot implementation of a range of health sector interventions. A number of concrete examples exhibited the utility of NHA as a source of baseline information and as a tool for discerning the effects of interventions. Third, potential users of the NHA were invited to meetings and workshops and thus were not only informed about their uses but were also involved in designing them. Fourth, along with NHA development activities, capacity building and training on health economics and health financing were carried out at the DOH. Understanding of the financial dimension of the health sector thus brought an appreciation of the NHA and its usefulness for policy analysis and decisionmaking among its intended users.

The continuing utilization of the NHA by the country's health sector stakeholders and decisionmakers can be attributed to its three main features: timeliness, reliability, and policy relevance. First, the NHA is now part of the country's statistical system. NHA estimation has been successfully institutionalized at the Na-

tional Statistical Coordination Board (NSCB) where estimates are routinely generated on an annual basis. Usage of the NHA can be built into routine planning, programming, and monitoring/evaluation activities, particularly at the DOH, because estimates are regularly available.

Second, the NHA has an established, fully documented set of definitions and estimation methodologies. Thus, NHA estimates are reliable and consistent over the years. Furthermore, data and estimation methodologies are periodically reviewed and revised when necessary to improve reliability of estimates.

Third, the NHA design is constantly reviewed and modified when necessary to reflect important changes in the health sector. For example, the columns of the NHA's main matrix have been revised twice to reflect (1) the expansion of the social health insurance component implemented through the Overseas Workers Welfare Office (OWWA), and (2) the integration of the Social Security System and the Government Service Insurance System Medicare programs into one—the National Health Insurance Program, now managed by PhilHealth. Modifications are introduced periodically to ensure policy sensitivity and relevance of the NHA.

It is within the context of enhancing the policy relevance of the NHA that the DOH proposed additional major revisions in 2003. Thus, in 2004–2005, the DOH, the NSCB, and the Philippine Institute for Development Studies (PIDS) collaborated in making the necessary revisions, with financial support from the World Health Organization (WHO). The succeeding sections describe the development and uses of the original NHA, the development of the revised NHA, and new findings about health expenditures in the Philippines from preliminary 2003 estimates using the revised NHA matrices.

BRIEF HISTORY OF THE DEVELOPMENT AND USES OF NHA IN THE PHILIPPINES

The Philippines is in a unique position of being one of very few developing countries in the world with a long NHA series and where NHA production has been institutionalized (Racelis and Herrin 2003).

The need for NHA development in the Philippines was first emphasized in the 1987–1992 Medium Term Philippine Development Plan, which set the national policy "to strengthen information- and research-based decisionmaking and implementation" in government.

In 1987, the Asian Development Bank commissioned a study to estimate national health expenditures and sources of financing for the period 1981–1985 as a case study to be presented at the Regional Seminar on Health Care Financing in Manila in that year (Integrated Health Care Services 1987).

In 1991, a second attempt to estimate national health expenditures (with more details of uses of funds) was undertaken for the year 1985 by the Research

Triangle Institute and the University of the Philippines School of Economics or UPSE (Solon et al. 1992). In 1992, a joint effort to develop and institutionalize NHA in the Philippines was initiated by the Health Finance Development Project (HFDP), a DOH project funded by the United States Agency for International Development or USAID (Herrin 1992.) Two other institutions were directly involved in the project, the UPSE (through its Health Policy Development Program or HPDP) and the NSCB.

In 1993, an NHA Inter-Agency Committee was formed to formally involve key institutions in NHA development. These institutions included those expected to have a continuing role in NHA estimation (e.g., data generators such as the NSCB, the Commission on Audit, and the National Statistics Office) and in the use of NHA results (e.g., DOH and PhilHealth.) Said committee was later reconstituted as the NHA Technical Working Group, which was eventually subsumed under the Inter-Agency Committee for Health and Nutrition, a regular sectoral committee that oversees all government-generated statistics related to health and nutrition.

Between 1993 and 1995, the NHA conceptual framework and design were discussed in various meetings and workshops organized by the HFDP (Herrin et al. 1983; Herrin 1993; NSCB 1993). In the same period, the HFDP initiated the creation of a health policy unit within the DOH and sponsored the training of its staff particularly on health care financing. This policy unit was created to ensure that information and evidence-based decisionmaking will continue even after the completion of the project. This unit is now called the Health Policy Development and Planning Bureau.

The first set of NHA estimates for 1991 became available in 1994 (Racelis and Herrin 1994) and was first presented in an international conference in Mexico City in May 1996 (Herrin et al. 1996). Concepts, definitions, data sources, and estimation methods used to generate NHA were carefully documented (Herrin et al. 1995; Racelis and Herrin 1995.) Contents of these documents were eventually incorporated into the Philippine NHA manual.

In 1995, the HFDP officially ended but the UPSE/HPDP NHA team continued to provide technical assistance and training to NSCB until 1999 to ensure the institutionalization of NHA estimation (Racelis 1995.) The final set of estimates for 1991 through 1997 was approved by the NSCB Board for official release in 1999. Since then, the NSCB has been producing NHA estimates annually. The NSCB also regularly provides the WHO with estimates for inclusion in its annual World Health Report. (See the annex tables of various issues of this WHO report.)

A number of important activities benefited from the usefulness of NHA estimates. It was the basis for determining the health sector reforms needed in the

country (DOH 1999; Solon et al. 1999; DOH 2004). The NHA series were also used in examining health expenditure patterns before and after the decentralization of public health care services (Schwartz et al. 2000). The NHA methodology has also been applied in the estimation of specific components of national health expenditures, including provincial health expenditures and family planning expenditures. These applications were presented in an international conference in 2001 (Racelis and Herrin 2001). The NHA series, together with survey data on health facility utilization and health insurance coverage, were also used to estimate health expenditures for the elderly in the Philippines (Racelis et al. 2003).

Motivated by additional data needs for policy analysis and planning, the DOH had proposed changes to the NHA as early as 2003. It thus initiated the Philippine NHA Development Project to improve and extend the usefulness of the Philippine NHA. The project was implemented from 2004 to 2005 with support from WHO and in collaboration with the NSCB and PIDS.

THE ORIGINAL NHA

The original Philippine NHA basically consisted of one main matrix and a number of more detailed tables on national government expenditures (Table 1). The main matrix describes the payors and uses of health expenditures in a given year. The columns show how much of health sector financing is being channeled through specific types of payor like the government (national and local), the national health insurance, and the households. The rows show how funds are being spent on various types of health care goods and services.

The original NHA matrix was designed to be useful for descriptive and analytical purposes. The categories of payors not only describe existing institutions; these could also be arranged according to the extent by which a payor takes into account the uncertainty associated with health care spending as well as the size of the risk pool (Solon et al. 1999). On one end, there is the household or family (with the smallest risk pool and the least effective in handling risks); on the other end, there is the national health insurance program (which explicitly accounts for risk and has the potential of becoming the largest risk pool).

The health services on which funds are spent are likewise grouped for analytical purposes. The broad category of public health services represents services with benefits that accrue to entire communities (e.g., disease-vector control). Personal health services, on the other hand, represent services with benefits that accrue only to the individual who directly consumes them (e.g., appendectomy). These broad categories are referred to as health care function categories. Under the main category for personal health care are subcategories in terms of health care providers. Thus, the uses of fund classification in the original NHA consisted of a combination of health functions and providers as categories.

Table 1. Philippine national health accounts, 2003 preliminary (original matrix)
(in million pesos)

USES OF FUNDS	SOURCES OF FINANCING														TOTAL BY USE
	GOVERNMENT				SOCIAL INSURANCE			PRIVATE SECTOR						OTHERS	
	National			Local	Medicare		Employees' Compensation (SSS & GSIS)	Private Out of Pocket	Private Insurance		HMOs	Employer-Based Plans	Private Schools		
	Central	FAPS Loans	FAPS Grants		PhilHealth	OWWA			Life & Non-life Insurance Companies	HIP (GSIS)					
PERSONAL HEALTH CARE	12,316	1,024	655	6,235	10,961	269	163	59,793	1,232	2	3,160	4,997	1,854	193	102,854
Government Hospital	12,145	1,024	655	6,215	10,961	269	163		59,793	2	3,160			77	
Private Hospital	-	-	-	-										9	
Non-Hospital MD Facilities	171	-	-	20									1,854	57	
Other Professional Facilities	-	-	-	-										0	
Dental Facilities	-	-	-	-				59,793				4,997		14	
Traditional Health Care	-	-	-	-										15	
Retail Outlets: Drugs and Other Non-Durable Purchases (self care)	-	-	-											20	
Retail Outlets: Vision Products and Other Medical Durables (self care)	-	-	-											-	
PUBLIC HEALTH CARE	2,623	668	1,608	11,070										715	16,683
OTHERS	2,610	984	237	6,502	1,489	46	7	-	2,155	-	1,497	-	-	895	16,422
General Administration and Operating Costs	2,371	-	-	6,502	1,489	46	7		2,155	-	1,497			807	14,874
Bio-Medical Research	202	-	-	-		-								-	202
Operations/Policy Research	19	984	237	-		-								72	1,311
Survey and Monitoring	18	-	-	-		-								-	18
Manpower Training Activities		-	-	-		-								17	17
Net Income					-				8		(5)			-	3
Additions to Reserves					4,021	318	104		1,549		-			-	5,992
TOTAL BY SOURCE	17,548	2,676	2,499	23,807	12,450	315	171	59,793	3,387	2	4,657	4,997	1,854	1,803	135,959

☐ expenditure covering the items within the scope of the box.
▒ expenditure item not applicable.

Source:
National Statistical Coordination Board, 2003 Philippine NHA Report.

A specific NHA matrix can tell how much the country spent for health in total, how much was paid by each type of payor (column totals), how much was spent for each type of good or service (row totals), and what goods and services were paid for by a specific payor (cell entry in a given column). A series of these annual matrices allow the examination of financing and expenditure patterns over time.

As can be gleaned from the 1991–2003 NHA, total health expenditures exhibited an increasing trend in both real and per capita terms up to 1997 (Table 2). However, setbacks were observed in 1998 and then again in 2001 and 2002. During these years, negative real growth and decline in real per capita health expenditure were experienced. As of 2003, per capita health expenditure had still not returned to its 1997 and 2000 levels, the highest ever experienced since 1991. Total health expenditures grew faster than the gross national product (GNP) from 1991 to1997. Beginning 1998 up to 2003, health expenditure growth steadily lagged behind the GNP as indicated by the decreasing share of health expenditure relative to the GNP, from 3.5 percent in 1997 to 2.9 percent 2003.

Meanwhile, the share of household out-of-pocket spending started to decline in 1996 and then again in 1999 and 2000 where the decrease was more significant (Table 3). There was a slight increase between 2001 and 2003. The share of health spending paid for by social health insurance schemes had been growing since 1991, with dramatic increases seen beginning 2000 due to the expansion of enrollment in the PhilHealth's Sponsored Program. In 2000, the combined national and local government expenditure shares slightly surpassed the share of household expenditures. This pattern had reversed again the following year. Households remained to be the single largest source of funds for health.

NHA DEVELOPMENT CRITERIA AND REVISIONS

Criteria

The structure and format of the revised NHA matrices/tables for the Philippines were determined based on three criteria: usefulness, international comparability, and "do-ability" or data availability.

The usefulness of NHA as a tool for health sector policymaking, planning, and information dissemination about health sector changes needed to be expanded. A number of improvements in the Philippine NHA were identified by key health sector stakeholders and decisionmakers in a series of meetings organized by the DOH. The main changes sought were those that would allow the examination of health expenditure allocation by priority program, by geographic area, by socioeconomic groups, and by demographic grouping of population. These desired changes implied the need to increase the number of dimensions or breakdowns by which health expenditures can be reported in the NHA.

Table 2. Health expenditures, share to GNP and per capita: Philippines, 1991–2003

Year	Total health spending (in billion pesos at current prices)	Total health spending (in billion pesos at 1985 prices)	Health spending growth rate (1985 prices)	Share of health to GNP (in percent)	Annual health expenditures per capita (pesos at current prices)	Annual Health Expenditures per Capita (pesos at 1985 prices)
1991	36.0	20.9		2.9	577	336
1992	39.8	21.3	1.9	2.9	624	334
1993	47.6	23.8	11.8	3.2	729	365
1994	54.9	25.4	6.5	3.2	822	380
1995	65.7	28.1	10.8	3.4	961	411
1996	76.9	30.2	7.3	3.4	1,099	431
1997	87.8	32.5	7.8	3.5	1,226	454
1998	94.5	31.9	-1.9	3.4	1,288	435
1999	104.8	33.2	4.1	3.3	1,397	442
2000	114.9	34.9	5.0	3.2	1,496	454
2001	116.6	33.4	-4.3	3.0	1,485	425
2002	117.2	32.5	-2.6	2.8	1,462	405
2003	136.0	35.5	9.4	2.9	1,662	434

Source: National Statistical Coordination Board, 2003 Philippine NHA Report.

Table 3. Health expenditures by type of payor: Philippines, 1991–2003

Type of payor	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Amount (in billion pesos)												
All payors	**36.0**	**39.8**	**47.6**	**54.9**	**65.7**	**76.9**	**87.8**	**94.5**	**104.8**	**114.9**	**116.6**	**117.2**	**136.0**
	Distribution by source (in percent)												
Government	**38.4**	**35.0**	**36.4**	**37.0**	**35.0**	**36.0**	**38.0**	**39.1**	**39.2**	**40.6**	**36.2**	**31.0**	**34.2**
National	28.9	27.5	20.8	18.4	17.3	17.2	18.3	18.0	17.1	17.8	13.4	13.0	12.9
Local	3.8	4.3	12.5	15.9	15.9	16.2	17.6	18.4	18.5	19.3	19.1	15.2	17.5
Foreign-assisted projects	5.6	3.1	3.2	2.8	1.8	2.5	2.0	2.8	3.7	3.5	3.7	2.8	3.8
Social health insurance	**5.4**	**5.9**	**6.3**	**5.7**	**4.5**	**5.0**	**5.1**	**3.8**	**5.0**	**7.0**	**7.9**	**9.0**	**9.5**
Private payors	**55.8**	**58.5**	**56.7**	**56.7**	**59.6**	**58.1**	**56.1**	**56.1**	**54.5**	**51.2**	**54.5**	**58.6**	**54.9**
Household out-of-pocket	47.5	49.3	47.5	47.2	50.0	48.3	46.5	46.3	43.3	40.5	43.9	46.8	44.0
Private insurance and HMOs	2.9	2.8	2.4	2.1	1.8	1.7	1.9	2.0	2.2	2.0	2.5	2.9	2.5
Other private payors	5.5	6.4	6.8	7.5	7.9	8.2	7.7	7.8	8.9	8.7	8.2	8.9	8.5
Other	**0.4**	**0.6**	**0.6**	**0.6**	**0.8**	**0.9**	**0.9**	**1.0**	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**
All payors	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: National Statistical Coordination Board, 2003 Philippine NHA Report.

The revisions were also prompted by the need to harmonize with international standards for health accounting (e.g., adhering to the International Classification for Health Accounts or ICHA) in order to achieve comparability of results across counties. During the design of the original Philippine NHA, there was no guideline completely appropriate for the Philippine context and thus, the Philippine NHA did not follow any particular model or standard. Recently, however, a guideline for low- and middle-income countries has become available—the Guide to Producing National Health Accounts: With Special Applications for Low-Income and Middle-Income Countries, or the NHA Producers' Guide. Said guide was jointly prepared by WHO, World Bank, and USAID. The NHA Producers' Guide covers concepts, definitions, and methods pertinent to NHA estimation. It also includes many practical exercises and examples that address estimation issues likely to be encountered in NHA work in developing countries.

The format of reporting health expenditures in the revised NHA should also be in agreement with what can be supported by existing data and available estimation techniques and tools. The data sources should be regularly generated, systematically compiled, and readily accessible to ensure that no difficulties would arise in future estimation work.

Revisions

The revised NHA consists of five main matrices or tables. The general table format in the original NHA has been maintained, with payors (now referred to as financing agents or FA) listed along the columns of all five tables and uses of funds categories listed along the rows. Breakdown by uses of funds now include health providers (HP); health care functions (HC), with details on the preventive and public health services category; geographic location (more specifically, province or PROV); age group of beneficiary of health spending (AGE); and income group of beneficiary of health spending (more specifically, income quintile or QUIN). The categories used for the FA, HP, and HC dimensions follow the ICHA, including the codes used for each category. To summarize, the revised NHA now includes the following two-dimensional tables: FA x HP, FA x HC, FA x PROV, FA x AGE, and FA x QUIN.

Data availability has influenced the revisions in two aspects. The first is on the level of detail of the tables, i.e., the number of categories that can be adopted in the various expenditure classification schemes. For example, the category for curative care under the health care function classification cannot be disaggregated into inpatient and outpatient care because of limitations in hospital expenditure data. Unlike government hospital expenditures, private hospital expenditures under the health provider classification cannot

be disaggregated by type of hospital (e.g., general, substance abuse, etc.) because of lack of systematically compiled data on expenditure. Data constraints also limited the number of categories of financing agents that could be included in three of the five new NHA tables. The NHA tables with breakdown by province, by age group, and by income group can report expenditures only for four categories of payors—national government, local government, NHIP, and household out-of-pocket spending. Data for allocating health expenditures by province, by age group, and by income are available only for these four payors.

The second is on the frequency of production of the NHA tables. Only two of the five tables (FA x HP and FA x HC) can be produced annually. The rest can be produced albeit irregularly until such time when the required input data are already systematically compiled and readily available.

THE REVISED NHA: 2003 PRELIMINARY ESTIMATES AND FINDINGS

The estimates presented for the five revised NHA tables for 2003 were produced through the NHA Development Project implemented by PIDS. These estimates are still under review by the NSCB and have not yet been officially released, thus are deemed preliminary. Data sources and estimation procedures used for these tables are described in Annex 1.

The following section presents some findings on national health expenditures, which are mostly new, as these are derived from an examination of health expenditures using the five new classification schemes in the revised NHA.

Financing agent by health provider

The ICHA provides an extensive list of types of health providers for both hospitals and providers of ambulatory care. However, at this time, only details of government hospital expenditures can be estimated because of data constraints.

Based on the 2003 preliminary NHA estimates (Table 4), the top four payors of hospital care were households (10%), national government (9%), PhilHealth (8%), and local government units (5%). Together, they accounted for P43.7 billion or 32 percent of the total national health expenditures.

National government spending for health was still predominantly used for the operation of public hospitals, accounting for about 70 percent. Of these, 66 percent was used for general hospitals, 28 percent for specialty and special hospitals, and the remaining 6 percent for mental health and substance abuse rehabilitation facilities.

Local government expenditures for health mainly paid for the operation of general hospitals (26%) as well as public integrated care centers, including rural health units (25%), and for the provision of public health programs (21%).

Table 4. Philippine national health accounts, 2003 preliminary
Financing agent by health provider

HEALTH PROVIDER		FINANCING AGENT													TOTAL BY HEALTH PROVIDER
		HF.1 Public Sector						HF.2 Private Sector							
		HF.1.1Government			HF.1.2 Social Secuurity Funds			HF.2.2 Private Insurance			HF.2.3	HF.2.4	HF.2.5 Private Corps		
		HF.1.1.1 National -- DOH and Others	HF.1.1.1 National -- FAPS	HF.1.1.2 (Province) and HF.1.1.3 (Municipal)	HF.1.2.1 PhilHealth	HF1.2.3 OWWA	HF.1.2.2 Employees' Compensation (SSS & GSIS)	HF.2.2.1 Life & Non-life Insurance Companies	HF.2.2.2 HIP (GSIS)	HF.2.2.3 HMOs	Private Out of Pocket	Non-profit Insitutions Serving Households (NPISH)	HF.2.5.1 Employer-Based Plans	HF.2.5.2 Private Schools	
HP.1	**Hospitals**						163,235	1,232,348		3,160,457					68,609,343
HP.1.1.1	Public general	8,312,469	1,678,015	6,215,451	10,961,001	268,654			1,643		13,980,612	77,342			
HP.1.2.1	Public mental health and substance abuse	770,319													
HP.1.3.1	Public specialty/special	3,462,652													
HP.1.1.2, HP.1.2.2, HP.1.3.2	Private hospitals of all types											9,220			
HP.2	**Nursing and residential care facilities**										16,215,094	258			
HP.3	**Providers of ambulatory health care**														
HP3.1-HP3.9	Ambulatory health providers (other than RHUs)	141,307		19,670								86,078		1,853,517	
HP.3.4.9.1	Public integrated care centers (RHUs and others)	52,128		5,993,044											6,045,172
HP.4	**Retail sale and other providers of medical goods**										29,597,771	19,947			29,617,718
HP.5	**Provision and administration of public health programs**	2,093,929	2,260,040	5,077,364								715,100			10,146,432
HP.6	**General health administration and insurance**														
HP.6.1	Government administration of health	2,483,099		6,501,795											8,984,894
HP.6.2	Social security funds administration				1,489,446	46,144	7,421								1,543,011
HP.6.4	Other (private) insurance administration							2,154,924		1,496,751					3,651,675
HP.6.9	Other providers of health administration											806,663			806,663
HP.7	**All other industries (rest of the economy)**														
HP.7.1, HP.7.3	Establishments as providers of occupational health and secondary producer of health												4,996,687		4,996,687
HP.8	**Institutions providing health-related services**														
HP.8.1	Research institutions	232,487	1,236,726									71,692			1,540,905
HP.8.2	Education and training institutions											16,743			16,743
TOTAL BY FINANCING AGENT		17,548,390	5,174,781	23,807,325	12,450,447	314,798	170,656	3,387,272	1,643	4,657,208	59,793,476	1,803,044	4,996,687	1,853,517	**135,959,244**

expenditure covering the items within the scope of the box.
expenditure item not applicable.

Source: Philippine Institute for Development Studies, NHA Development Project 2004-2005.

Household out-of-pocket expenditures for health paid for care in hospitals (23%) and care by ambulatory health providers (27%), and for drugs purchased from retail outlets (50%).

Financing agent by health care function

The ICHA also provides an extensive list of types of health care services and functions. However, only details of expenditures of national government and foreign-assisted projects for public health services can be estimated at this time because of data constraints.

Based on the 2003 preliminary NHA estimates (Table 5), curative care services and medical goods accounted for 55 and 22 percent, respectively, or a total of about three quarters, of the national health expenditures. The remaining health expenditures went to preventive and public health services (11%), health administration and insurance including government regulation (9%), and health-related services such as research and training (1%).

The top spenders of curative care services were households (40%), national government (17%), PhilHealth (15%), and local government units (10%).

National government expenditures for preventive and public health services went to programs for prevention of communicable diseases (34%) and noncommunicable diseases (23%), and maternal and child health (9 percent).

Similarly, expenditures of foreign-assisted projects mostly paid for programs for prevention of communicable diseases (32%) and noncommunicable diseases (23%), and maternal and child health (22%).

Financing agent by geographic unit

NHA data originally disaggregated by province were summarized at the regional level for ease of analysis and presentation (Table 6). Note that not all health expenditures were allocated by region. Only expenditures that can be attributed to specific locations were included in the regional estimates, which constituted about 80 percent of national health expenditures.

To facilitate examination of health expenditures from a regional dimension, a number of summary measures were computed from the data in Table 6, the results of which are presented in Figure 1 (expenditure concentration curves by payor; see Annex 2 for details on concentration curves) and in Figures 2 and 3 (regional distribution of health expenditures by type of payor and per capita expenditure, respectively).

The distribution of health expenditures of each payor by region did not indicate any strong concentration in a specific region or regions. While health expenditures for all payors were not exactly evenly distributed among regions, all concentration curves in Figure 1 were not too far from the line of

Table 5. Philippine national health accounts, 2003 preliminary

Financing agent by health care function

HEALTH CARE FUNCTION		FINANCING AGENT													TOTAL BY HEALTH CARE FUNCTION
		HF.1 Public Sector						HF.2 Private Sector							
		HF.1.1Government			HF.1.2 Social Secuurity Funds			HF.2.2 Private Insurance			HF.2.3 Private Out of Pocket	HF.2.4 Non-profit Insitutions Serving Households (NPISH)	HF.2.5 Private Corps		
		HF.1.1.1 National -- DOH and Others	HF.1.1.1 National -- FAPS	HF.1.1.2 (Province) and HF.1.1.3 (Municipal)	HF.1.2.1 PhilHealth	HF1.2.3 OWWA	HF.1.2.2 Employees' Compensation (SSS & GSIS)	HF.2.2.1 Life & Non-life Insurance Companie	HF.2.2.2 HIP (GSIS)	HF.2.2.3 HMOs			HF.2.5.1 Employer-Based Plans	HF.2.5.2 Private Schools	
HC.1-HC.4, HC.R.1	**Services of curative and other health care**	12,738,876	1,833,649	7,428,380	10,961,001	268,654	163,235	1,232,348	1,643	3,160,457	30,195,706	172,899	4,996,687	1,853,517	75,007,051
HC.5	**Medical goods**										29,597,771	19,947			29,617,718
HC.6, HC.R.4	**Preventive and public health services**														14,777,397
HC.6.1	Maternal and child health	224,279	467,232	9,877,149								715,100			
HC.6.2	School health services	85,420													
HC.6.3	Prevention of communicable diseases	826,413	676,489												
HC.6.4	Prevention of non-communicable diseases	562,862	490,000												
HC.6.5	Occupational health	43,842	20,055												
HC.6.9	Other public health services	317,093	450,630												
HC.R.4	Food, hygiene and drnking water control	20,833													
HC.7	**Health administration and insurance**														
HC.7.1.1	General government administration of health	2,483,099		6,501,795											8,984,894
HC.7.1.2	Administration, operation and support of social. sec. funds				1,489,446	46,144	7,421								1,543,011
HC.7.2.2	Administration and health insurance: other (private)							2,154,924		1,496,751		806,663			4,458,338
HC.R	**Health-related services**														
HC.R.2	Education and training of health personnel	145										16,743			16,888
HC.R.3	Research and development in health	245,529	1,236,726									71,692			1,553,947
TOTAL BY FINANCING AGENT		17,548,390	5,174,781	23,807,325	12,450,447	314,798	170,656	3,387,272	1,643	4,657,208	59,793,476	1,803,044	4,996,687	1,853,517	**135,959,244**

expenditure covering the items within the scope of the box.
expenditure item not applicable.

Source: Philippine Institute for Development Studies, NHA Development Project 2004-2005.

Table 6. Philippine national health accounts, 2003 preliminary
Financing agent by region

	Region	Financing agent					Total by province (4 FAs only)
		HF.1.1.1 National government	HF.1.1.2 (Province) and HF.1.1.3 (Municipal) Local government	HF.1.2.1 PhilHealth	HF.2.3 Private out-of-pocket	All other financing agents	
A.	**Expenditures allocated by province**	**14,566,624**	**23,807,325**	**10,961,001**	**59,793,476**		**109,128,425**
1	Ilocos	726,210	1,924,875	517,276	2,525,909		5,694,270
2	Cagayan Valley	485,194	1,102,367	217,061	2,060,072		3,864,694
3	Central Luzon	1,424,978	2,043,408	1,095,196	6,312,288		10,875,870
4	Southern Luzon	2,458,751	4,588,181	1,961,720	10,705,749		19,714,401
5	Bicol	996,181	1,409,304	427,537	3,521,328		6,354,351
6	Western Visayas	1,546,996	1,552,936	847,698	4,995,439		8,943,068
7	Central Visayas	881,215	1,233,383	737,205	4,083,093		6,934,895
8	Eastern Visayas	945,391	1,816,924	353,759	1,983,398		5,099,472
9	Western Mindanao	383,481	390,057	354,208	1,560,038		2,687,784
10	Northern Mindanao	479,375	779,688	580,671	2,362,977		4,202,710
11	Southern Mindanao	739,949	845,075	775,584	3,793,426		6,154,034
12	Central Mindanao	309,940	755,371	267,446	1,173,454		2,506,211
13	Caraga	450,794	691,632	226,956	877,475		2,246,857
14	NCR	1,919,064	3,503,164	2,354,424	12,448,225		20,224,878
15	CAR	425,346	956,120	164,434	1,007,162		2,553,062
16	ARMM	393,760	50,461	79,827	383,443		907,492

Table 6. continued

Region	Financing agent					Total by Province (4 FAs only)
	HF.1.1.1 National government	HF.1.1.2 (Province) and HF.1.1.3 (Municipal) Local government	HF.1.2.1 PhilHealth	HF.2.3 Private Out-of-pocket	All Other Financing agents	
B. Expenditures not allocated by province	8,499,716		1,489,446		16,841,657	26,830,819
Total by financing agent	23,066,340	23,807,325	12,450,447	59,793,476	16,841,657	135,959,244

expenditure item not applicable or data not available.

Source: Philippine Institute for Development Studies, NHA Development Project 2004–2005.

Figure 1. Health expenditure concentration curves (regional), 2003

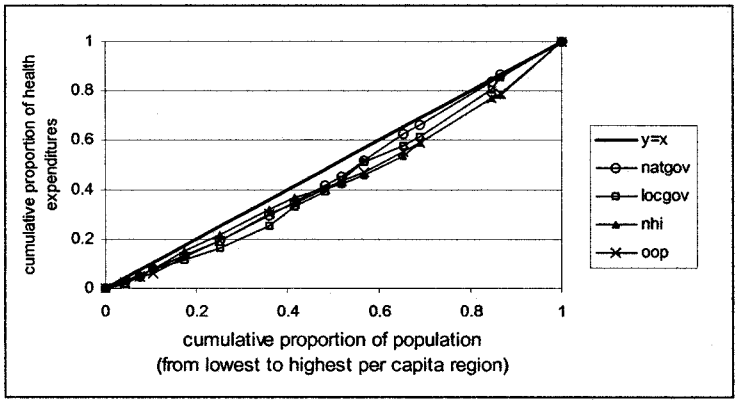


Figure 2. Distribution of health expenditures by financing agent for each region, 2003

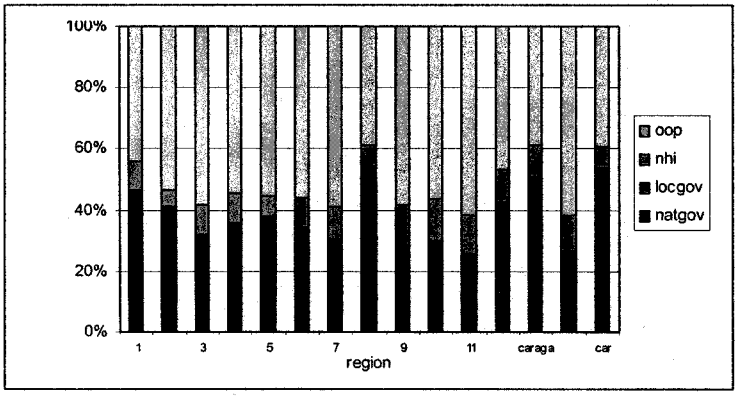
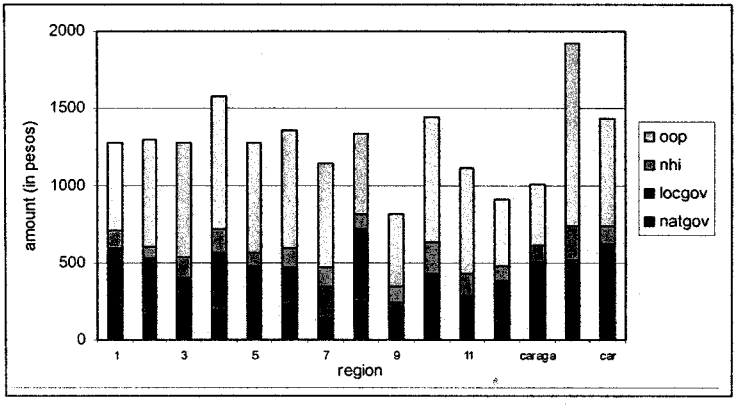


Figure 3. Per capita expenditure by financing agent for each region, 2003



equality, y = x. The curve for national government spending was the closest to the line of equality.

Meanwhile, the shares of regional health spending accounted for by national government and national health insurance seemed to be relatively even across regions (Figure 2.) The widest variation was observed in the shares accounted for by local government and household out-of-pocket spending. The share of local government was less than 20 percent in Regions 9 and 11, but almost 40 percent in Regions 1, 8, and CAR. Out-of-pocket spending was less than 40 percent in Region 8, CAR, and CARAGA, but over 60 percent in Region 11 and NCR.

Overall per capita health expenditure was highest in the NCR followed by Regions 4, 10, and CAR (Figure 3.) Out-of-pocket per capita spending was likewise highest in these four regions. National health insurance payment per capita was highest in Region 10 and NCR. Local government per capita expenditures was highest in Regions 1 and 8.

Financing agent by age group

Health expenditures by age group were also estimated (Table 7). Only expenditures that can be attributed to specific individual beneficiaries, mostly curative care expenditures (about 70% of national health expenditures), were included.

Following the same approach used in the analysis of expenditures by region, health expenditures by age group were analyzed using a number of summary measures. Results were also presented in graphical form. Note that the number of age groups has been reduced in the graphs.

Figure 4 presents the ratios of health expenditure share to the population share of each age group. A ratio below 1.0 means that the age group is getting less than its share of health expenditures relative to its population share. A ratio exceeding 1.0 means that the age group is getting more than its share of health expenditures relative to its population share.

As can be gleaned from the ratios plotted in Figure 4, the national health insurance expenditures were relatively evenly distributed across age groups. Young children (0–4 years old) got nearly double their share of national and local government health expenditures. The elderly (especially those 65 years or older) got more than double their share of health expenditures except for the national health insurance.

About 50 percent of health expenditures of very young children (0–4) were paid for by the national and local governments (Figure 5.) On the other hand, over 60 percent of health expenditures of persons 50 years or older were from out-of-pocket spending. Compared with other age groups, persons in the prime working

Table 7. Philippine national health accounts, 2003 preliminary
Financing agent by population age group

Age group	FINANCING AGENT					Total by age group (4 FAs only)
	HF.1.1.1 National government	HF.1.1.2 (Province) and HF.1.1.3 (Municipal) Local government	HF.1.2.1 PhilHealth	HF.2.3 Private out-of-pocket	All other financing agents	
A. Expenditures allocated by age group	**14,223,456**	**12,208,495**	**10,961,001**	**59,793,476**		**97,186,428**
PAG1 0-4	2,763,612	3,513,239	1,288,569	5,768,602		13,334,021
PAG2 5-9	1,195,878	1,472,023	1,142,633	4,513,169		8,323,702
PAG3 10-14	836,412	745,104	1,079,897	4,708,941		7,370,353
PAG4 15-19	819,712	580,611	1,156,341	5,127,934		7,684,597
PAG5 20-39	2,668,061	2,066,338	3,389,115	19,608,445		27,731,959
PAG6 40-49	1,622,403	1,118,065	1,252,389	5,701,691		9,694,548
PAG7 50-64	2,323,775	1,488,744	1,182,186	8,180,026		13,174,732
PAG8 65 or Older	1,993,604	1,224,372	469,872	6,184,669		9,872,516
B. Expenditures not allocated by age group	**8,842,884**	**11,598,829**	**1,489,446**		**16,841,657**	**38,772,816**
Total by financing agent	**23,066,340**	**23,807,325**	**12,450,447**	**59,793,476**	**16,841,657**	**135,959,244**

expenditure item not applicable or data not available.

Source: Philippine Institute for Development Studies, NHA Development Project 2004–2005.

Figure 4. Health expenditure share to population share ratios by age group, 2003

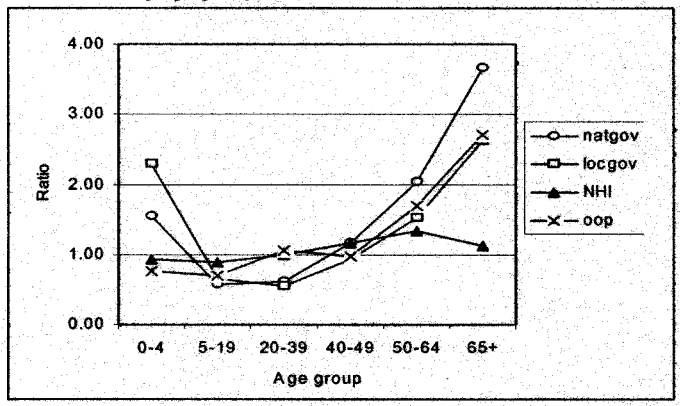


Figure 5. Distribution of health expenditures by financing agent for each age group, 2003

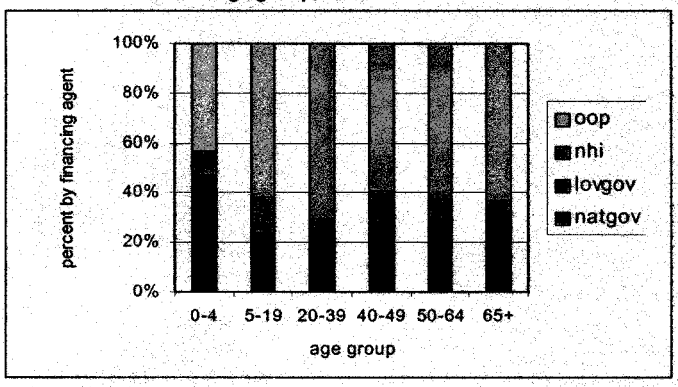
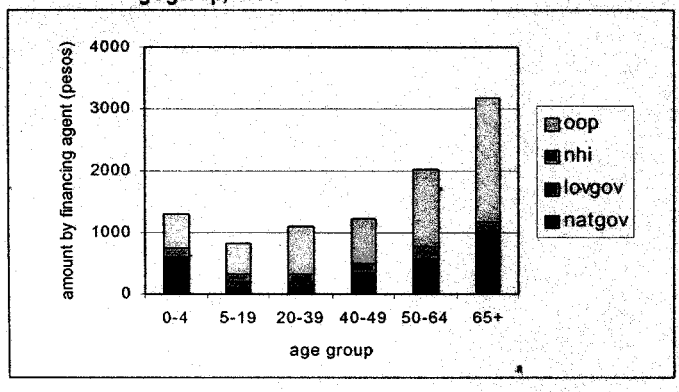


Figure 6. Per capita expenditure by financing agent for each age group, 2003



ages (i.e., 20–39 years) had a bigger share of their health expenditures paid for by the national health insurance.

Per capita expenditure profile by age had the expected U-shape, with a high per capita spending exhibited by the very young and the elderly, and a relatively lower spending exhibited by the youth and the young adults. Per capita health expenditures of persons 65 years or older were about triple those for persons under 50 years old (Figure 6.)

Financing agent by income group

Table 8 presents estimates of health expenditures by income group. Only expenditures that can be attributed to specific beneficiaries (about 70% of national health expenditures) were included in the estimates.

Health expenditures by income group were analyzed using a number of summary measures. Results as in the previous two sections were presented in graphical form. Figure 7 presents health expenditure concentration curves by payor (see Annex 2 for details on concentration curves). Figures 8 and 9 show the distribution for each income group of health expenditures by type of payor and per capita expenditures, respectively.

The concentration curves for national and local government health expenditures plotted in Figure 7 indicated that the health expenditures of these payors were not concentrated in any income group. The curves were very close to the line of equality. However, high degrees of concentration were found for health expenditures of the national health insurance and household out-of-pocket spending. The concentration curves for these payors were significantly bowed away from the line of equality. The curves, for example, showed that the bottom 60 percent of households accounted for only 20 percent of total household out-of-pocket spending and 30 percent of total national health insurance expenditures. The health expenditure shares of the lower income groups were much less than the proportion of households that they accounted for. On the other hand, the top income quintile (i.e., the top 20% of households) accounted for about 50 and 60 percent of total national health insurance and household out-of-pocket health expenditures, respectively.

In general, the shares of national and local government as payors of health expenditures were highest for the lowest income group, totaling about 60 percent of this quintile's health expenditures and observed to be progressively getting smaller with the rise in income. In contrast, the share of household out-of-pocket spending was lowest in the lowest income group (about 20%) but observed to be progressively getting bigger with the rise in income (about 80% for the highest income group). National health insurance share was smallest for the second quintile

Table 8. Philippine national health accounts, 2003 preliminary
Financing agent by income group

Income group	FINANCING AGENT					Total by income group (4 FAs only)
	HF.1.1.1 National government	HF.1.1.2 (Province) and HF.1.1.3 (Municipal) Local government	HF.1.2.1 PhilHealth	HF.2.3 Private Out-of-pocket	All other financing agents	
A. Expenditures allocated by income group	**14,223,456**	**12,208,495**	**10,961,001**	**59,793,476**		**97,186,428**
PIQ1 Bottom quintile	2,048,683	2,234,122	1,112,173	1,574,126		6,969,104
PIQ2 Second quintile	2,835,078	2,756,413	620,552	3,770,792		9,982,835
PIQ3 Third quintile	3,297,591	2,857,829	1,381,430	6,380,326		13,917,175
PIQ4 Fourth quintile	3,186,246	2,556,238	2,922,507	12,215,616		20,880,607
PIQ5 Top quintile	2,855,858	1,803,893	4,924,339	35,852,616		45,436,707
B. Expenditures not allocated by income group	**8,842,884**	**11,598,829**	**1,489,446**		**16,841,657**	**38,772,816**
Total by financing agent	23,066,340	23,807,325	12,450,447	59,793,476	16,841,657	135,959,244

expenditure item not applicable or data not available.

Source: Philippine Institute for Development Studies, NHA Development Project 2004–2005.

Figure 7. Health expenditure concentration curves (quintiles), 2003

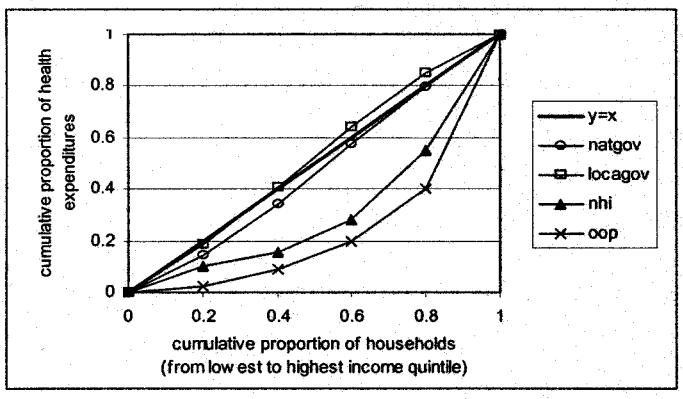


Figure 8. Distribution of health expenditures by financing agent for each quintile, 2003

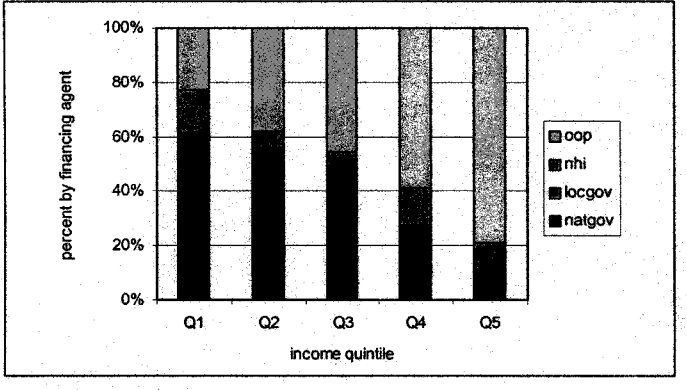
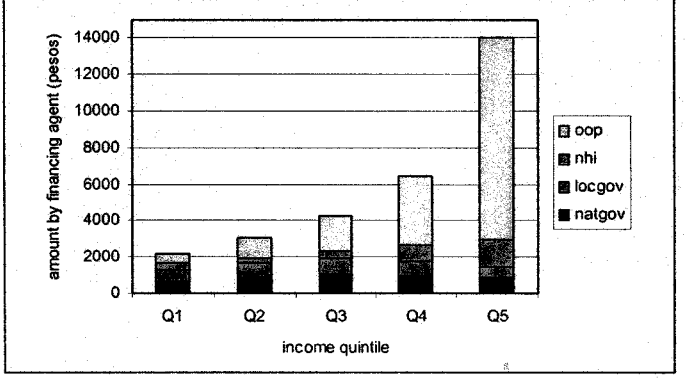


Figure 9. Average household health expenditure by financing agent for each quintile, 2003



and observed to be progressively getting bigger with the rise in income. Among all income groups, national health insurance share was highest in the lowest income group. However, despite the national health insurance contributions, the levels of per capita spending for the lowest quintile, as well as for the second lowest quintile, remained low.

As expected, the average household health expenditure showed an increasing trend as household income increased. The big difference in average health spending between the lowest and the highest income group can be attributed in most part to household out-of-pocket spending. Household out-of-pocket spending in the top fourth quintile was about two times and in the top fifth quintile about four times the amount spent by other payors. On the other hand, average out-of-pocket spending by households in the bottom quintile was about one-third the amount paid for by other payors combined.

Revised NHA and monitoring effects of health sector reform initiatives

The Health Sector Reform Agenda (HSRA) and *FOUR*mula *ONE* for Health identified a number of critical health financing reforms intended to bring about shifts in health expenditure allocation and financing levels and patterns. The revised NHA has extended its usefulness in monitoring the impact of some of these reforms. However, the effects of these reforms can be studied only after the revised NHA estimates for two or more years have become available. Some of the health financing-related effects expected from the health sector reforms include the following:

Overall health resources

- ✦ Mobilization of additional and sustainable financing for health
- ✦ Expansion of National Health Insurance Program (NHIP) coverage (i.e., increased membership and collection)
- ✦ Increase of national government health resources from extra budgetary sources (e.g., earnings of government hospitals and health regulatory agencies)

Rational/efficient use of resources

- ✦ Focus of local government subsidies on priority programs
- ✦ Shift of national government resources toward priority public health programs, regulation, governance, and training hospitals
- ✦ Shift of household out-of-pocket spending from inpatient to outpatient care
- ✦ Focus of NHIP on inpatient care

Resources for various groups

- ✦ Equity in allocation of health resources (and, therefore, equity in access to health) from the perspectives of geographic location, income groups, and other population groups such as the elderly
- ✦ Financial protection, particularly for the poor (i.e., protection from the impoverishing effects of out-of-pocket spending for health)

The breakdown of health expenditures by financing agent available in all the NHA tables will facilitate the monitoring of shares of each type of payor and the progress of NHIP expansion. However, a new table on financing sources by financing agents is needed for monitoring the possible sources from which payors may, in turn, obtain additional resources for health (e.g., how much of PhilHealth funds come from government, corporations, and households).

Meanwhile, the expenditure breakdown shown in Tables 4 and 5 by payor and by type of health provider and health care services will enable the monitoring of the patterns of resource use for each type of payor. Unlike the original, the revised NHA now contains details of national government expenditures by type of hospital and by broad types of public health programs. At present, however, the classification scheme for types of hospitals does not include yet a category for teaching hospitals. Moreover, due to data constraints, LGU expenditures for public health still cannot be reported by type of program.

On the other hand, Tables 6, 7, and 8 provide direct quantification of how health resources are being allocated across geographic locations and population groups in the country. The progress in achieving equitable resource allocation and improving financial protection for the poor can be monitored through these tables.

SUMMARY AND CONCLUSION

A number of "new" findings were gathered from the revised NHA tables for 2003 revealing their enhanced usefulness in analyzing the country's health care expenditures.

The national government still spent much of its health resources for the operation and maintenance of government hospitals (70%), of which 66 percent went to general hospitals, 28 percent to specialty and special hospitals, and 6 percent to mental health and substance abuse rehabilitation facilities. Local government units spent 26 percent of their health resources for general hospitals.

Of national government expenditures for prevention and public health services, 34 percent went to programs for prevention of communicable diseases, 23 percent for prevention of noncommunicable diseases, 9 percent for maternal and child health, and the rest for other public health programs, including school health services, occupational health, and food, hygiene, and drinking water control.

The regional distribution of health expenditures by type of payor indicated no strong concentration of expenditures in a specific region or regions in the country.

National and local governments heavily supported the health expenditures of children. Prime working-age adults, compared with other age groups, had the highest percentages of expenditures paid for by the NHIP. The health expenditures of the elderly were mainly financed by out-of-pocket payments.

The shares of national and local governments as payors of health care were highest in the lowest income group and observed to be progressively getting smaller with the rise in income. In contrast, the share of household out-of-pocket spending was lowest in the lowest income group and likewise observed to be progressively getting bigger with the rise in income. Among all income groups, NHIP share was highest in the lowest income group and lowest in the second-to-the-lowest income group.

While the expansion of the NHA has provided new information about health spending in the Philippines, there is much more to be learned. For one thing, there are financing-related effects from the health sector reforms that need to be monitored. Unfortunately, these are beyond the scope of the revised NHA. The system therefore should continue to evolve so it could maintain its policy relevance and usefulness. Additional NHA dimensions and tables should continuously be explored as data sources improve and expand. Given the reasonable length of the available NHA series, the NHA system can already include a simulation/projection model to contribute further to informed policy reforms in the future.

ANNEX 1

Data Sources and Estimation Methods for the Revised NHA

The main data sources for health expenditures are the same as those used in the original NHA. These include:

1. National government (including foreign-assisted projects)
   - ✦ National Expenditures Program (NEP), Department of Budget and Management (DBM)
   - ✦ Annual Financial Report for National Government, Commission on Audit (COA)
   - ✦ Budget of Expenditures and Sources of Financing (BESF), DBM
   - ✦ National Economic and Development Authority-Presidential Management Staff (NEDA-PMS) and DOH-Bureau of Health International Cooperation (BHIC) Foreign-Assisted Projects (FAP) Reports

2. Local government
- ✦ Annual Financial Report of Local Governments, COA

3. National health insurance schemes (PhilHealth, EC, and OWWA)
- ✦ PhilHealth Annual Report, Philippine Health Insurance Corporation (PHIC)
- ✦ Overseas Workers Welfare Administration (OWWA) agency submission to the National Statistical Coordination Board (NSCB)
- ✦ Employees Compensation (EC) Commission Report
- ✦ Government Service Insurance System (GSIS) and Social Security System (SSS) Annual Reports

4. Household out-of-pocket
- ✦ Family Income and Expenditure Survey (FIES), National Statistics Office (NSO)
- ✦ Personal Consumption Expenditure (PCE) series from the National Income Accounts, NSCB

5. Private insurance
- ✦ Annual Report, Insurance Commission (IC)
- ✦ Annual Financial Statements submitted by health maintenance organizations (HMOs) to the Securities and Exchange Commission (SEC)

6. Nonprofit institutions
- ✦ Department of Social Welfare and Development (DSWD) Reports on non-profit institutions serving households (NPISHs)

7. Corporations
- ✦ 1994 Commission on Higher Education (CHED) survey of private school health costs
- ✦ 1994 NHA Rider to the Annual Survey of Establishments (ASE)

The NHA tables with the by health provider (HP) and by health care function (HC) expenditures breakdowns were estimated directly from the expenditure data contained in the sources listed above. The NHA tables with the by province, by age group, and by income group expenditures breakdown were estimated using data listed above together with additional information. Additional information included national health insurance (NHI) membership and health facility utilization of individuals (i.e., use of RHU and government hospitals) taken from the 2002 Annual Poverty Indicator Survey (APIS).

As described previously, the NHA tables with expenditure breakdown by province, by age group, and by income group include only four categories of payors—national government, local government, national health insurance program (NHIP), and household out-of-pocket. The methods used to obtain the expenditure breakdowns are described below for each type of financing agent.

For the NHA table with provincial breakdown, estimation proceeded as follows:

- National government expenditures for hospitals were allocated by province according to the distribution of government hospital users by province (from the 2002 APIS); national government expenditures for public health were allocated using Philippine population distribution by province.
- Local government expenditures by province were derived directly from individual financial statements of local government units (LGUs) available from the COA.
- NHIP expenditures were allocated by province according to the distribution of NHIP membership by province (from the 2002 APIS)
- Household out-of-pocket payments by province were derived directly from the 2003 FIES

For the NHA table with age and income group breakdowns, estimation proceeded as follows:

- National and local government expenditures for hospitals and local government expenditures for RHUs were allocated by age group according to the distribution of government hospital and RHU users by age group (from the 2002 APIS).
- NHIP expenditures were allocated by age group according to the distribution of population with NHIP coverage by age (from the 2002 APIS).
- Household out-of-pocket payments by age group were estimated indirectly by multiplying (mean) per capita expenditures for each age group with population size for each age group; (mean) per capita expenditure for each age group was estimated in two steps using the 2002 APIS: (a) Step 1, using household level health expenditures data, per capita spending was computed for each household in the survey and the computed per capita value assigned to (individuals) members of a household, and (b) step 2, pooling all individuals and their assigned health spending, the average or mean per capita health expenditures was then computed by age group of individuals; per capita health spending estimates were adjusted to their 2003 NHA levels.

ANNEX 2

Concentration curves

A concentration curve consists of plots of one cumulative distribution versus another cumulative distribution. The concentration curve will indicate the extent to which a particular trait or attribute is concentrated in specific groups. Concentration curves may be constructed by following the steps listed below.

1. Basic data needed to construct a concentration curve are measurements of specific variables (like health expenditures, X) from units of observation such as households and their characteristics (like income class, Y).

2. The units of observation are then grouped according to the characteristic, Y, used in the analysis. For example, households may be grouped by geographic location (e.g., region) and by income group (e.g., income quintile). Persons may be grouped by age.

3. The values for the variables, X, measured from households are aggregated or totaled for each group of households defined based on Y. In the case of health expenditures, for example, health expenditures across all households in each region or in each income groups are totaled. The total numbers of households in each region or income group are also tabulated. Thus, there will be two sets of data aggregated by region or by income group, health expenditures and number of households. The health expenditure example is used to illustrate the remaining steps.

4. Compute for the distribution of household by region or by income group (using tabulated data on number of households by group.)

5. Similarly, compute for the proportion or percentage share of each region or income group out of the total national health expenditures (using tabulated data on health expenditure totals by group).

6. Compute for the average household health expenditures for every group (i.e., for each region or income group, divide the total health expenditures by the number of households in the group.).

7. Sort the groups in the order of ascending average household health expenditures, i.e., arrange the regional or income groups from lowest to highest average household health expenditures.

8. Compute for the cumulative proportions or percentage across groups in the direction of increasing average household expenditures. Compute for the cumulative proportions or percentages for number of households and for health expenditures.

9. The pairs of cumulative proportions or percentage values for number of households and for health expenditures for regions can be plotted on a graph. Similarly, the pairs of cumulative proportions or percentage values for number of households and for health expenditures for income groups can also be plotted on a graph. Values for cumulative proportion of households are along the x-axis and values for cumulative proportion of health expenditures are along the y-axis. These plots are referred to as concentration curves.

10. The line y = x when plotted on the same graph represents the line of equality. This is the line where the cumulative proportions are equal for the number of households and health expenditures. The closer a concentration curve is to the line of equality, the smaller the degree of concentration of expenditures in any group.

11. A concentration curve below the line of equality indicates some degree of concentration of health expenditures in the higher income groups (for the case of income groups) and in the regions with higher average household health expenditures (in the case of geographic regional groupings). The more the concentration curve is bowed away from the line of equality, the higher the degree of concentration of health expenditures.

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