



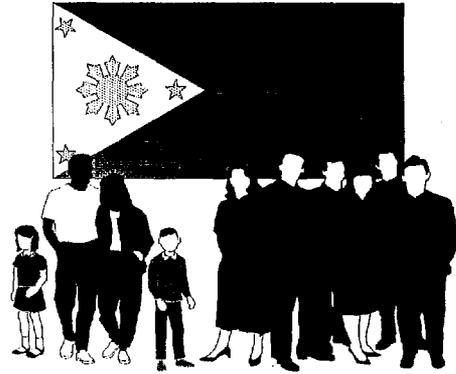
# Technical Brief

No. 4 - December

## National Health Insurance Program:

### Alternative Benefit Packages & Some Estimates of Cost

By  
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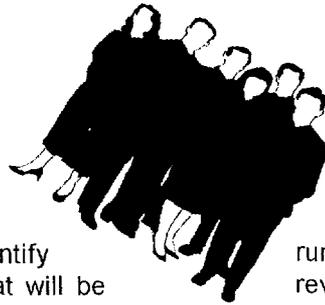
#### Background.

The Health Finance Development Project (HFDP) of the Department of Health initiated two studies to quantify the financial resources that will be required to set-up and operationalize a comprehensive national health insurance program in anticipation of the passage of the pending National Health Insurance Bill in both Houses of Congress. These studies entitled "*National Health Insurance Program: Alternative Benefit Packages and Some Estimates of Costs*" by Dinah N. Patao and Rhais M. Gamboa, both of HFDP, and "*National Health Insurance System Cost Simulation Model*" developed by Orville Solon, Joseph J. Capuno, Benedict Quiton and Elizabeth Edillon of the HFDP/UPEcon Health Policy Development Program could be useful for both Houses of Congress in estimating overall NHIP costs. This technical brief dwells only on the paper by Dinah N. Patao and Rhais M. Gamboa.

The paper of Patao and Gamboa aims to (a) estimate the benefit costs of alternative benefit packages that may be provided by the NHIP; (b) provide some indications of administrative cost in

running the program; (c) estimate NHIP premium revenues assuming a SSS-Medicare Program 1-like premium structure; (d) estimate premium subsidy requirements for the indigent population; (e) determine the incremental funding requirements for the NHIP given the assumed structure of costs and revenues; and (f) identify some of the implications on policy of the resulting NHIP funding requirements.

The authors categorized NHIP costs into (a) benefit payments; (b) recurrent administrative costs; and (c) organizational set-up costs. The authors likewise identified three NHIP sources of revenues. These are (a) premium collections; (b) interest income; and (c) other income such as donations and other fees.





**"Technical Brief"**

reports on the findings of research studies and their interpretations of implications for health policy. They also highlight information regarding important aspects of health policy based on conferences, research, policy speeches, demonstration and pilot project results, consultations, and public discussions.

**"Technical Brief"** draws attention to recent factual findings that have significant policy implications. It is meant to disseminate factual information and expressions of opinion bearing on policy and policy related issues to provide important information and to encourage the exchange of ideas, interpretation of facts and expressions of opinion among those interested in development and formulation of health policy in the Philippines.

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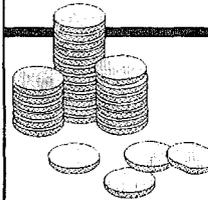
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**I. NHIP Costs**

**1. Benefit payments.** These were estimated assuming various combinations of NHIP inpatient and outpatient packages. Two alternative inpatient packages were used in the costing: the current Medicare Program 1 package, and the inpatient component of the health package proposed to be provided by the Tarlac Health Maintenance Cooperative (THMC) which has a higher average value of benefits per confinement than the Medicare Program 1 package. Inpatient services included in both packages are (a) room and board; (b) drugs and medicines; (c) laboratory and other diagnostics; (d) professional/ surgeon fees; (e) operating room fees; and (f) surgical family



planning procedures.

The alternative outpatient packages - A, B, and C -

are the options developed in a HFDP study titled "Outpatient Package Under Fee-for-Service and Capitation," conducted by PhilamCare Health Systems, Inc. and which are currently being evaluated to be provided on a pilot basis under Medicare Program 1. The outpatient services included are various combinations of (a) primary consultation; (b) specialist consultation; (c) diagnostic procedures; and (d) minor suturing, and summarized below:

**Table 1. Three Alternative Types of Outpatient Benefit Packages**

Package A	Package B*	Package C	Proposed Medicare Benefit Limit per Availment (P)
Primary consultation	Primary consultation	Primary consultation	30
	Specialty consultation	Specialty consultation	60
Diagnostics	Diagnostics	Diagnostics	
CBC	CBC	CBC	60
Urinalysis	Urinalysis	Urinalysis	30
Fecalysis	Fecalysis	Fecalysis	30
Chest X-ray	Chest X-ray	Chest X-ray	100
	ECG	ECG	100
	FBS		60
	Extremity X-rays		100
	Minor suturing		150

\* Package B is also being considered to be provided by the Tarlac Health Maintenance Cooperative (THMC).

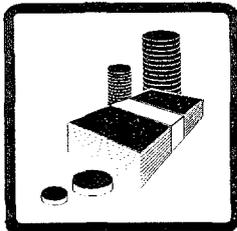
The inpatient annual utilization rate (IUR) used in the paper in estimating NHIP benefit payments is 50.72% per family with a size of 5.3 members. This was computed using SSS/GSIS 1993 Medicare data and updated estimates of the proportion of Philippine population with Medicare benefit entitlement. On the other hand, data on outpatient utilization rates have to come from sources other than Medicare Program 1 since it does not provide outpatient services. The utilization rates reported in this paper was based on HFDP-funded PhilamCare study (1993) in the accompanying Table 2.

**Table 2. Outpatient Utilization Rates per Annum, by Type of Health Service**

Type of Service	Individual	Household <sup>1</sup>
1. Outpatient Consultations		
a. Primary Consultations	145.0%	768.50%
b. Special Consultations	50.0%	265.00%
2. Diagnostic Procedures		
CBC	7.3%	38.69%
Urinalysis	14.2%	75.26%
Fecalysis	2.1%	11.13%
Chest X-ray	7.6%	40.28%
ECG	5.2%	27.56%
FBS/Extremity X-rays	5.2%	27.56%
3. Minor Suturing	5.0%	26.50%

<sup>1</sup> Household utilization rate is derived by simply multiplying the individual utilization rate by the average family size of 5.3.

**2. Recurrent Administrative Cost.**



This includes the overhead costs in administering or operating NHIP, as distinguished from program expenses that directly accrue to program beneficiaries in the form of (health) benefit payments. Recurrent administrative costs include expenses for,

among others, membership recruitment and tracking, premium collection, claims processing, provider accreditation and negotiations, information and communication efforts, management information systems, and program monitoring and evaluation.

Recurrent administrative cost is estimated at 20 percent of the benefit payments. It should be noted, however, that this constant rate assumption implies that overhead costs increase or decrease linearly with benefit costs. This may not necessarily hold true, especially if fixed costs are substantial.

Further, this assumption may not adequately capture the fact that the fixed cost portion of administrative costs may taper off over time.

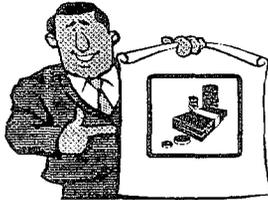
Generally, administrative cost is viewed as a percentage of premium. This paper pegged it in relation to benefit payments due to (a) uncertainty on how providers will actually be paid under NHI, and (b) uncertainty on how premium collections will be carried out for the self-employed and unemployed. For instance, if capitation and/or global budget schemes were adopted in paying providers (as contained in the Senate NHI version), claims processing costs would probably be lower per enrollee than the present retrospective fee-for-service practice under Medicare. Similarly, if premium collection for the self-employed and unemployed is coursed through barangay and/or municipal treasurers (as has been suggested in the earlier versions of the Lower House bill), then collection costs effectively become the burden of the local government units concerned. However, if premium collection for the self-employed and unemployed is done individually, then the administrative costs would probably be much greater than was assumed in this paper. (See Summary Table 3)

**Table 3. Summary Estimates of NHIP Benefit And Administrative Costs, 1994-2000 at Constant 1994 Prices**

Item	Year 1994	1995	1996	1997	1998	1999	2000
<b>I. Coverage</b>							
% of Total Philippine Households Assumed Covered by NHIP	21	34	47	60	73	86	100
No. of Households Covered by NHIP, in millions	2.656	4.389	6.190	8.058	9.991	11.989	14.193
<b>II. Total NHIP Benefit Payments, in million pesos</b>							
<b>A. Inpatient Benefits Only</b>							
A.1 Medicare Program 1	2,644.625	4,370.298	6,163.137	8,022.365	9,947.184	11,936.700	14,131.234
A.2 THIP Inpatient Package	5,087.164	8,406.646	11,855.327	15,431.711	19,134.267	22,961.273	27,182.649
<b>B. Outpatient Benefits Only</b>							
B.1 Package A	923.090	1,525.427	2,151.207	2,800.159	3,472.005	4,166.434	4,932.423
B.2 Package B	1,524.220	2,518.806	3,552.103	4,623.662	5,733.025	6,879.676	8,144.488
B.3 Package C	1,345.430	2,223.351	3,135.443	4,081.309	5,060.544	6,072.693	7,189.143
<b>C. Inpatient and Outpatient Benefits</b>							
<b>C.1 Medicare Program 1 plus:</b>							
a. Package A	3,567.715	5,895.725	8,314.344	10,822.523	13,419.189	16,103.134	19,063.658
b. Package B	4,168.845	6,889.104	9,715.240	12,646.027	15,680.209	18,816.376	22,275.723
c. Package C	3,990.054	6,593.649	9,298.580	12,103.673	15,007.728	18,009.393	21,320.378
<b>C.2 THIP Inpatient Benefits plus:</b>							
a. Package A	6,010.254	9,932.072	14,006.533	18,231.870	22,606.272	27,127.708	32,115.073
b. Package B	6,611.384	10,925.452	15,407.430	20,055.373	24,867.292	29,840.949	35,327.138
c. Package C	6,432.593	10,629.997	14,990.770	19,513.020	24,194.811	29,033.966	34,371.793
<b>III. Total NHIP Administrative Costs, in million pesos</b>							
<b>A. Inpatient Benefits Only</b>							
A.1 Medicare Program 1	528.925	874.060	1,232.627	1,604.473	1,989.437	2,387.340	2,826.247
A.2 THIP Inpatient Package	1,017.433	1,681.329	2,371.065	3,086.342	3,826.853	4,592.255	5,436.530
<b>B. Outpatient Benefits Only</b>							
B.1 Package A	184.618	305.085	430.241	560.032	694.401	833.287	986.485
B.2 Package B	304.844	503.761	710.421	924.732	1,146.605	1,375.935	1,628.898
B.3 Package C	269.086	444.670	627.089	816.262	1,012.109	1,214.539	1,437.829
<b>C. Inpatient and Outpatient Benefits</b>							
<b>C.1 Medicare Program 1 plus:</b>							
a. Package A	713.543	1,179.145	1,662.869	2,164.505	2,683.838	3,220.627	3,812.732
b. Package B	833.769	1,377.821	1,943.048	2,529.205	3,136.042	3,763.275	4,455.145
c. Package C	798.011	1,318.730	1,859.716	2,420.735	3,001.546	3,601.879	4,264.076
<b>C.2 THIP Inpatient Benefits plus:</b>							
a. Package A	1,202.051	1,986.414	2,801.307	3,646.374	4,521.254	5,425.542	6,423.015
b. Package B	1,322.277	2,185.090	3,081.486	4,011.075	4,973.458	5,968.190	7,065.428
c. Package C	1,286.519	2,125.999	2,998.154	3,902.604	4,838.962	5,806.793	6,874.359
<b>IV. Total (Benefit + Admin) NHIP Costs, in million pesos</b>							
<b>A. Inpatient Benefits Only</b>							
A.1 Medicare Program 1	3,173.549	5,244.358	7,395.765	9,626.838	11,936.620	14,324.040	16,957.481
A.2 THIP Inpatient Package	6,104.596	10,087.975	14,226.392	18,518.053	22,961.120	27,553.528	32,619.179
<b>B. Outpatient Benefits Only</b>							
B.1 Package A	1,107.709	1,830.512	2,581.448	3,360.191	4,166.407	4,999.721	5,918.908
B.2 Package B	1,829.064	3,022.567	4,262.524	5,548.395	6,879.630	8,255.611	9,773.386
B.3 Package C	1,614.516	2,668.022	3,762.531	4,897.571	6,072.653	7,287.232	8,626.972
<b>C. Inpatient and Outpatient Benefits</b>							
<b>C.1 Medicare Program 1 plus:</b>							
a. Package A	4,281.258	7,074.869	9,977.213	12,987.028	16,103.027	19,323.761	22,876.389
b. Package B	5,002.614	8,266.925	11,658.288	15,175.232	18,816.251	22,579.651	26,730.867
c. Package C	4,788.065	7,912.379	11,158.296	14,524.408	18,009.273	21,611.272	25,584.453
<b>C.2 THIP Inpatient Benefits plus:</b>							
a. Package A	7,212.305	11,918.487	16,807.840	21,878.244	27,127.527	32,553.249	38,538.087
b. Package B	7,933.661	13,110.542	18,488.916	24,066.448	29,840.750	35,809.139	42,392.565
c. Package C	7,719.112	12,755.996	17,988.924	23,415.624	29,033.773	34,840.760	41,246.151

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**3. Set-up Cost.**



This covers the costs associated with establishing or organizing the various units that will implement the NHIP. These costs may include those that will be incurred in restructuring the current Medicare Program 1 implementing units - namely, the PMCC, SSS-Medicare and GSIS-Medicare - to reflect their expanded mandate and functions under NHIP. Set-up costs may also cover those associated with establishing a totally new organization to implement NHIP, including the expenses that may be incurred in establishing local offices in different areas of the country as is currently proposed in the Senate version of the NHIP. Initial capital investment, such as structures and durable equipment, may also form part of the set-up costs.

estimates derived in an earlier paper by these same authors titled "How Much Will It Cost to Set-Up and Administer a National Health Insurance Program?". These costs are based on the experience of the HFDP in setting up a provincial health insurance in Bukidnon. The reported estimates of NHIP set-up costs include only the organizational costs of establishing local health offices in 77 provinces and 60 chartered cities all over the country. NHIP set-up costs, as earlier estimated, is about 527.724 million. This excludes capital investment and other expenditures which will have to be incurred in setting-up an entirely new central agency, or in restructuring the Philippine Medical Care Commission (PMCC) to manage the NHIP.

The set-up costs reported in this study are the

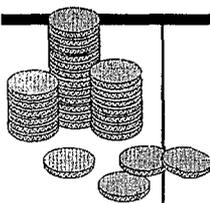
Based on assumed inpatient and outpatient utilization rates, the benefit and administrative costs in the year 2000 (when universal coverage is assumed to have been attained) for the various combinations of inpatient and outpatient benefits are summarized below (Table 4).

**Table 4. Estimates of NHIP Benefit and Administrative Costs, at Full Coverage in Year 2000, at constant 1994 prices**

Type of Benefits	Benefit Cost (P Million)	Admin Cost (P Million)	Benefit&Admin Cost (P Million)
<b>A. Inpatient Only</b>			
1. Medicare Program 1, or	14,131.234	2,826.247	16,957.481
2. THMC	27,182.649	5,436.530	32,619.179
<b>B. Outpatient Only</b>			
1. Package A, or	4,932.423	986.485	5,918.908
2. Package B, or	8,144.488	1,628.898	9,773.386
3. Package C	7,189.143	1,437.829	8,626.972
<b>C. Inpatient and Outpatient</b>			
1. Medicare Program 1 plus:			
1.1. Package A, or	19,063.658	3,812.732	22,876.389
1.2. Package B, or	22,275.723	4,455.145	26,730.867
1.3. Package C	21,320.378	4,264.076	25,584.453
2. THMC plus:			
1.1. Package A, or	32,115.073	6,423.015	38,538.087
1.2. Package B, or	35,327.138	7,065.428	42,392.565
1.3. Package C	34,371.793	6,874.359	41,246.151

## II. NHIP REVENUES

NHIP revenues come from three sources: (a) premium collections; (b) interest income; and (c) other income, such as donations and other fees. In this paper, only the premium revenues are estimated, assuming a SSS-Medicare Program 1-like premium structure and the family as the membership and premium assessment unit; interest and other income are not projected in this paper. The paper estimates that at full coverage, the expected total premium collection is about 11 billion. This is a conservative estimate since the computation did not take into account the possibility that there are more than one gainfully-employed or NHI member in one family who may be required to pay premium.



## III. PREMIUM SUBSIDY FOR THE INDIGENT



The pending bills in both Houses of Congress have specific provisions for the government, both national and local, to provide premium subsidy for the indigent, the determination of which is to be made through a "means test." For this paper, the authors defined indigent as those families below the poverty threshold. The per capita poverty threshold income for 1991 is P7350 per annum, or P38,955 per annum for a household comprising of 5.3 members. In the absence of updated data, the 1991 poverty threshold is used as a constant poverty threshold level in 1994.

The paper estimated that the total premium subsidy requirements at universal coverage is about P4.170 billion based on the assumption that 49 percent of the total household population which is below the poverty threshold is granted premium subsidy.

## IV. INCREMENTAL FUNDING REQUIREMENTS

Assuming Medicare Program 1-like benefits and premium structure, the additional funding requirements are estimated as the sum of the following: (a) the difference between premium collections and expected benefit payments; (b) the cost of administering the program; (c) the premium subsidy for the indigent; and (d) set-up costs, which is the total organizational set-up cost of P527.724 million spread equally over a 7-year period, i.e., 1994 - 2000.

During the initial year of NHIP implementation, the additional funding requirement is about P2.022 billion. This grows to about P10 billion at universal coverage. (See Table 5)

## V. SOME IMPLICATIONS ON POLICY

Funding of this deficit (incremental funding requirements) may come from (a) internal sources such as investment income which is not considered here, and/or additional premium collections that may be generated by adjusting the current Medicare Program 1 salary ceiling of P3000 per month and/or the current premium rate of 2.5 percent of salary credit to more reasonable levels; and (b) external sources such as government subsidy and donations from other entities. The magnitude and timing of available external funding, however, are highly unpredictable such that the NHIP may have to rely more on internal sources to sustain its operations.

The social burden of premium subsidy requirements for the indigent may also be brought to more manageable levels by (a) adopting a more restrictive definition of the indigent, possibly focussing initially on the "real paupers" and expanding to other groups as the financial resources

**Table 5. NHIP Incremental Funding Requirements,  
Assuming Medicare Program 1-Like Benefit Package and Premium Structure, 1994-2000**

	1994	1995	1996	1997	1998	1999	2000
Projected NHIP Coverage Rate in percent	21	34	47	60	73	86	100
A. NHIP Revenues, in millions Total Premium Collections	2,006.875	3,316.331	4,677.168	6,088.630	7,549.206	9,058.896	10,724.240
B. NHIP Costs, in millions							
Benefit Costs	2,644.625	4,370.298	6,163.137	8,022.365	9,947.184	11,936.700	14,131.234
Administrative Costs	528.925	874.060	1,232.627	1,604.473	1,989.437	2,387.340	2,826.247
Set-up Costs *	75.389	75.389	75.389	75.389	75.389	75.389	75.389
NHIP Costs	3,248.939	5,319.747	7,471.154	9,702.227	12,012.009	14,399.429	17,032.870
C. Income (Deficit), Net of Premium Collections	(1,242.063)	(2,003.416)	(2,793.986)	(3,613.597)	(4,462.803)	(5,340.533)	(6,308.630)
D. Other Funding Requirements Premium Subsidy for Indigent Families	780.446	1,289.676	1,818.886	2,367.784	2,935.782	3,522.880	4,170.509
E. Incremental Funding Requirements Net of Premium Collections	2,022.509	3,293.092	4,612.872	5,981.381	7,398.585	8,863.413	10,579.139

\* The total estimated organizational set-up cost of P527.724 is divided equally over the seven-year period, 1994-2000. This however, does not include capital investment requirements.

available to the program may warrant; and (b) premium cost sharing between the government, national and local, and the gainfully employed beneficiaries according to their capacity to pay.

The NHIP may also incorporate program features which will aid in controlling the escalation of program costs. These may include (a) the adoption of non-traditional payment mechanisms, such as capitation and global budget, that shift some of the risks and associated cost to health service providers; and (b) the installation of administrative systems that will allow the detection and control of possible fraud and abuse to the system.

## VI. LIMITATIONS OF THE STUDY

No new data allow the refinement of the set-up cost estimates as done on the previous study (*"How Much Will It Cost to Set-Up and Administer a National Health Insurance Program"*), and thus no attempt was made to come up with new estimates. Instead, the authors focused only on the estimation of benefit packages that may be offered under the NHIP. Also, there is a dearth of utilization data for the self-employed and the unemployed, making the projections rough indicators of NHI costs. Only with actual experience can the actual utilization data be obtained to make NHI cost estimates more reliable.

The bases for computing premium contribution in the paper is the family income which is consistent with the shift to the family as the NHIP membership/coverage unit. In this exercise, family income levels are simply assumed to be the same as the 1991 levels as reported in the 1991 Family Income and Expenditures Survey (FIES), which are the only available data on family income at the national level. Attempts were made to extrapolate 1994 family income from 1991 income levels using a variety of adjustment factors, or inflators, such as the consumer price index, inflation rate, and the

implicit price index or GNP deflator. According to the authors, these attempts were also abandoned as the resulting estimates have their own drawbacks and limitations.

*Note: "National Health Insurance Program: Alternative Benefit Packages and Some Estimates of Costs" is available on request, pick-up basis from the HFDP Makati, the address of which is provided in the staff box.*

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