

Mission report

Validating unit cost and assessing capitation for Social Health Insurance

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1. Background

The Social Health Insurance in Lao applied capitation contract model. Public hospitals in Vientiane Capital, Vientiane Province, Khammuan and Savannakhet provinces were contractor providers. The first capitation rate in 2002 to 2004 was 60,000 Kip/beneficiary, the current capitation rate, 65,000 Kip was used since 2005 and had not been adjusted since 2005. Based on this rate, contractor hospitals are required to provide outpatient and inpatient services to the registered beneficiaries for a year. Note that capitation rate here includes labour and material costs. Often voiced by contractor providers that the increase in utilization and cost inflation warrants a need for revision of capitation rate, so that healthcare providers can provide decent services to the beneficiaries.

WHO grants the National Institute of Public Health (NIOPH) and Social Security Office to estimate unit cost for out-patient and in-patient in 2007 in three hospitals in Vientiane Capital: Mahosot, Mittaphab and Settatilad Hospital. The methodology of standard costing was applied. These includes five steps (1) identification of cost centres, (2) collecting total direct cost including labour and material costs, (3) gathering allocation factors, (4) calculating indirect cost and full cost by cost centre and (5) computing the unit cost. The unit cost of out-patient and in-patient will be applied in the revision of the capitation rate for Social Health Insurance scheme.

The International Health Policy Program (IHPP) has extensive experiences in costing health care services in Thailand in the last 20 years and other countries of the region e.g. Vietnam and Maldives. In addition, IHPP, as a consultant of the ILO, had closely worked with the SSO staff in 2003 to estimate unit cost of out-patient and in-patient services at provincial hospital, district hospital and health centre in three provinces of Champasak, Savannakhet and Vientiane. At that time, the main objectives of the mission was not only to produce unit cost and capitation rate but also to build up capacity of the SSO staffs on costing exercise.

2. Objectives

The objectives of this mission are two folds: to provide an independent assessment of the costing methods and its results which were jointly conducted by NIOPH and SSO; and to estimate the capitation rates for the Social Health Insurance Scheme in 2008 to 2010.

3. Methods

The process of work covers (1) IHPP appraises Excel files of costing exercise in three hospitals produced by the NIOPH and SSO in collaboration with relevant Lao counterparts (2) validate the capitation rate computed by Lao counterparts and proposed various policy scenarios for discussions (3) joint presentation of unit cost results and capitation estimates to key stakeholders for further actions in a workshop.

3.1 Estimation of unit cost

There were two rounds of appraisal of the costing Excel files generated by Lao counterparts. The first round, the counterpart Dr Veomany, SSO staff sent the Excel files to IHPP in the middle of October 2007. IHPP reviewed and provided comments on each file and then sent all files back to the SSO. Subsequently, in the second round, the SSO revised the Excel files according to comments and sent to the IHPP again on 10 November 2008 for the final review.

3.2 Estimation of capitation

Capitation is the multiplications of utilization rates and the associated unit cost of services.

Formulae

$$\text{Annual capitation rate} = [\text{Outpatient use rate per capita per year} \times \text{unit cost per OP visit}] + [\text{Inpatient use rate per capita per year} \times \text{unit cost per admission}]$$

Outpatient use rate, visit per capita per year is the ratio of total visits at the outpatient and emergency room to a hospital in a year and the total number of beneficiaries registered with that contractor hospital.

Inpatient use rate, admission per capita per year is the ratio of total number of admissions to a hospital in a year and the total number of beneficiaries registered with that contractor hospital.

Data sources

Social Security Office keeps track of these utilization rates classified by each contractor provider; the reliability of information is high. Complete data is available for 2001 (half year) to 2007 in three central hospitals. In the use rate forecast for 2008-2010, data in 2002 to 2007 was applied and deliberately discard data in 2001 as the use rate was extremely low due to inception of the Scheme. The best fit with the highest R² in the Excel Program was applied for the forecast of use rate.

Unit cost: refer to the most update 2007 unit cost study in three central hospitals. Unit cost of 2007 was adjusted with 4.5% inflation for 2008 to 2010.

4. Results

4.1 Review of unit cost

Review of the first version

IHPP reviewed the first version of costing workbooks and found a number of problems required major revisions, see table 1. In addition, Walaiporn (WP) had a discussion in person with Dr Veomany to explain and clarify the comments and queries on Thursday-Friday 30-31 October 2008 in Vientiane Capital.

Table 1 Result of costing review by the IHPP

Topic	Mahosot	Mittaphab	Settha
Labour cost	<ul style="list-style-type: none"> Total LC = 5909 million kip is correct Please clarify allocation FTE – where these figures came from. 	<ul style="list-style-type: none"> Total LC = 2564 million kip is correct Please clarify allocation FTE – where these figures came from. Major comment: Please check LC of some cost centres equal to zero which is impossible. 	<p>Major comments</p> <ul style="list-style-type: none"> LC 2,920 million Kip might be too low estimation. LC of 128 contract workers now is zero, please check. Over time payment equal zero, this is impossible, please check. Please clarify FTE of LC by cost centres
Material cost	<p>Major comment</p> <ul style="list-style-type: none"> Pls check drug expenditure whether it is 9 or 10 or 23 billion kip. 	<p>Major comments</p> <ul style="list-style-type: none"> Sheet “Total MC” is incomplete – only MC of general admin, no MC in Pharmacy, Lab and other cost centres. Please complete the MC worksheet. 	<p>Major comments</p> <ul style="list-style-type: none"> Drug expense of 4,689 million kip is the data from Financial Department. Please check whether it should be either 5,703 or 5,909 million kip (figure from Pharmacy Department). Public utilities are double counted, please check
Allocation factor	<ul style="list-style-type: none"> Allocation factors of Lab, x-ray and pharmacy are collected for 5 days survey only. Formula used is correct. Please clarify allocation factors of General Admin. and Rehabilitation 	<ul style="list-style-type: none"> Allocation factors of Lab, x-ray and pharmacy are collected for 5 days survey. Formula used is correct. OR 100% allocates to ICU, why not allocates to C22 General Surgery? Rehab allocates 0.9 to emergency general and 0.1 to ICU—Why? Please clarify figure of allocation factor for A1 General Admin – where does it come from? Is it number of staff? If yes, why zero in some cost centres? 	<ul style="list-style-type: none"> Allocation factors of Lab and x-ray are collected for 5 days survey only. Formula used is correct. Please present how allocation factors of 1. Pharmacy Dept. (OP 0.52 and IP 0.48) come from? Please present how FTE for LC came from Allocation factors of Lab, Drug and x-ray differed from the workbook “Allocation factor”, check again. Major comment: no allocation factor of Rehab, OR and LR, please complete
Statistics for OP and admission	<ul style="list-style-type: none"> Could not find the figure of D/C 17356. Statistic workbook shows total D/C of 24279. Please verify 	<ul style="list-style-type: none"> D/C 9,012 where this figure come from? According to D/C of all wards, it should be 8,313. please verify 	<ul style="list-style-type: none"> New figures for admission are proposed in the excel file (new figure 15,948 IP cases, 31,335 IP days), please verify Re-calculation of average LOS and occupancy rate.
Unit cost calculation	<ul style="list-style-type: none"> Excellent work Formula of step down method is perfectly correct. 	<p>Major comment</p> <ul style="list-style-type: none"> Not yet calculate. Please do and will review again. 	<p>Major comment</p> <ul style="list-style-type: none"> Not yet calculate. Please do and will review again.

Review of the final version

The revised Excel files had been done (see the attached excel files) by the Lao counterparts and sent to IHPP on 10 November 2008. Having reviewed the final version of Excel files on costing of 2007 in Mahosot, Mittaphap and Settatilad hospitals, each excel file consisted of several sheets which mainly describe (1) cost centres, (2) labour cost, (3) material cost, (4) total direct cost, (5) allocation factors, (6) indirect cost calculation applying step down method and (7) unit cost of out-patient and in-patient computation.

Cost centres were identified and classified into three groups: - Non-Revenue Producing Cost Centre, NRPC, (e.g. general administration), Revenue-Producing Cost Centre, RPCC (e.g. Pharmacy, Laboratory, Radiology Department and Operating Room) and Patient Cost Centre, PS (i.e. OPD and IP).

This costing exercise focused on labour cost and material cost (which called operating cost). The capital depreciation cost was excluded. Hospital actual expenditure from all sources (i.e. government budget, hospital revenues and donor resources) were included in this costing exercise.

Labour cost and material cost were collected from the financial reports of the hospital. Labour cost included salary, overtime and other fringe benefits of all staff who currently work in the hospital (staff who were absent for their continued study or training for a year was excluded from labour costs). Because of data limitation, labour cost by individual staff in each cost centre was not available; the total labour cost of the hospital was allocated to each cost centre by number of staff. This means that every staff had the same amount of labour cost which might not be true. However, this assumption is acceptable due to data limitation and time constraint for this costing exercise. Material cost included cost of medicines, reagents for laboratory and radiology department, public utilities and administration material.

Due to data limitation, allocation factors of each RPCC were manually collected from the charge occurred to the out-patient and in-patient for a week and then these were computed as allocation factors.

Step down method was applied to allocate total direct operating cost of NRPC and RPCC to be the indirect cost of PS. The full cost of PS was a summation of total direct operating cost of the PS plus the indirect cost allocated to them. Average unit cost of out-patient and in-patient was calculated and shown in table 2.

Table 2 Unit cost, three central hospitals, 2007

	Mahosot	Mittaphab	Settatilad
1 Number of staff	782	439	385
2 Bed	450	150	186
3 OP visits	192,744	112,866	90,272
4 Admissions	17,450	9,906	15,948
5 Labour Cost, million Kip	5,910 (22%)	2,564 (22%)	3,447 (25%)
6 Material Cost, million Kip	21,228 (78%)	8,908 (78%)	10,233 (75%)
7 Total Operating Cost, million Kip	27,138 (100%)	11,472 (100%)	13,680 (100%)
8 Unit cost of OP (Kip/visit)	70,341	37,804	70,796
9 Unit cost of IP (Kip/admission)	778,223	639,348	457,066
10 Labour cost/staff (Kip/month)*	629,763	486,738	746,127

Note * Simple calculation of Labour cost divided by number of staff

In conclusion, based on the existing financial information system in these hospitals and time limitation for this costing exercise, the review of method and mathematic calculation found satisfactory by the IHPP.

4.2 Estimate of capitation 2008-2010

Use rate in 2001 to 2007

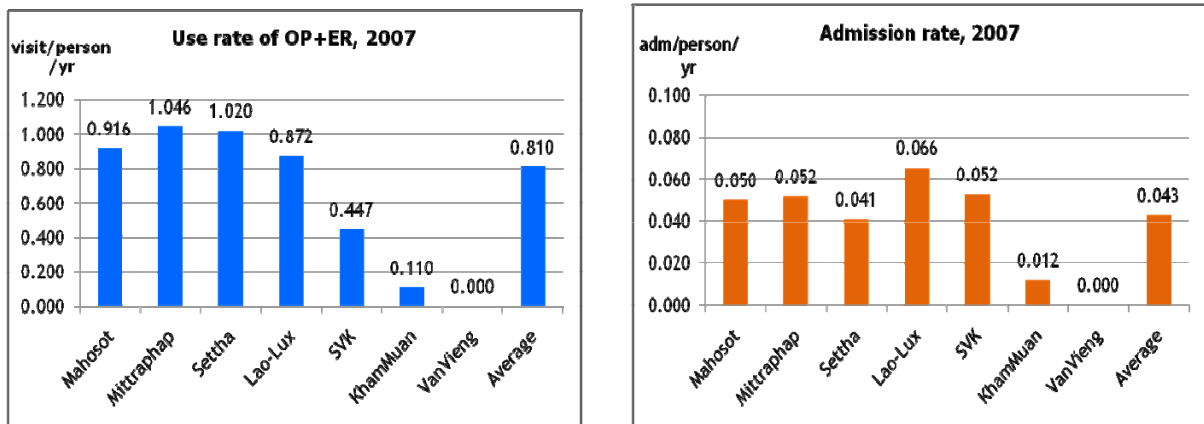


Figure 1A and 1B Outpatient and inpatient use rate 2007 all contractor hospitals
Source: SSO

The 2007 OP and IP use rates varied by contractor hospitals, Figure 1A and 1B. On average, the OP use rate among social health insurance (SHI) members was low, 0.810 visits per capita per annum, while inpatient use rate was also low, 0.043 admission per capita per annum. Van Vieng, Khammuan and Savannakhet were new contractor providers, with low OP use rate. Lao-Lux has the highest admission rate of 0.066 in 2007.

We found that complete utilization of OP and IP for long series of 2001 to 2007 was only available among three central hospitals. Figure 2A and 2B describes trend of OP and IP use rate in the past 7 years in these three central hospitals. OP use rate reached the peak in 2003 and saturated in 2003 to 2007 with slight fluctuation among them. OP use rate was around one visit per capita per year. However, a large variation in admission rate across the three hospitals. As a trauma centre, admission rate at Mittaphab was higher than other two hospitals.



Figure 2A and 2B Trend of outpatient and inpatient use rate 2001-2007, 3 central hospitals
Source: SSO

Forecast use rate for 2008 to 2010

A long series of complete use data for 2002 to 2007 was available in three central hospitals; we applied the average use rate of these three central hospitals in 2002-2007 as base years for projection into 2008 to 2010. The forecast in Excel was applied and select the highest R².

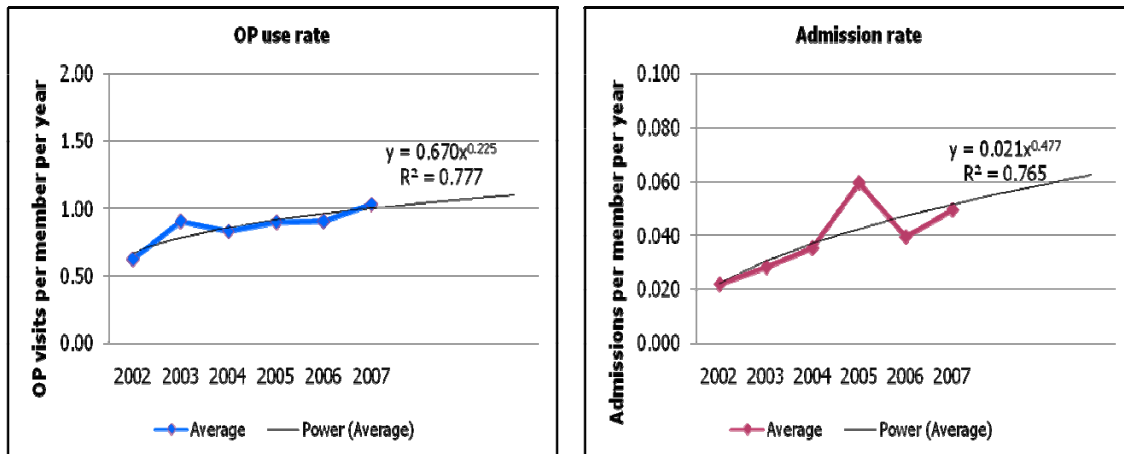


Figure 3A and 3B Forecast outpatient and inpatient use rate 2008-2010, 3 central hospitals

Source: analysis from SSO Dataset

The power trend line was selected for OP use rate projection, the formulae was

$$y = 0.670x^{0.225}, \text{ whereas } R^2 = 0.777$$

The power trend line was selected for IP use rate projection, the formulae was

$$y = 0.021x^{0.477} \text{ whereas } R^2 = 0.765$$

See figure 3A and 3B

Table 3 Predicted OP and IP use rate in three central hospitals

	Base years						Projection use rates		
Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
OP+ER	0.67	0.78	0.86	0.92	0.96	1.00	1.04	1.07	1.10
IP	0.021	0.029	0.035	0.041	0.045	0.049	0.053	0.057	0.060

Source: calculate from the formulae

Based on the formulae, the predicted use rate for 2008 to 2010 was calculated, see Table 3. In 2010, it is predicted that the OP use rate would be 1.1 visits per capita and IP use rate of 0.06 admissions per capita. This explicitly results in high estimation of use rate (and therefore high capitation estimation), as the three central hospitals have the highest OP use rate and very high IP use rate.

Unit costs

The unit cost per OP visit in Mahosot and Setta were very close, approximately 70,000 Kip whereas Mittaphab had much lower, Table 4. Unit cost per admission of Mahosot was highest, almost 800,000 Kip, whereas Mittaphab and Setta are much lower. The average unit costs in these three central hospitals were approximately 60,000 Kip per visit and 625,000 Kip per admission in 2007.

Table 4 Unit cost summary 2007

Unit cost	Mahosot	Mittaphab	Setta	Average
OP (Kip/visit)	70,341	37,804	70,796	59,647
IP (Kip/admission)	778,223	639,348	457,066	624,879

Source: NIOPH MOH and SSO MOLSW

We observed that the labour cost in these three central hospitals were low, about 22% to 25% of total operating cost (see Table 5). This is because the salary scales of staffs were low.

Table 5 Cost profiles, three central hospitals, 2007

Cost profiles	Mahosot	Mittaphab	Setta
Labour cost	22%	22%	25%
Material cost	78%	78%	75%
Operating cost	100%	100%	100%
Operating cost, million Kip	27,138	11,472	13,880

Policies choices to increase capitation rates

One of the policy scenarios is to raise the proportion of staff cost in the operating cost, to the level equivalent to other developing countries hospital cost profiles. For example labour cost in Vietnam is equal to 40% of total operating cost; similarly Thailand cost profiles is 45% labour cost, 45% material cost and 10% capital depreciations.

It should be noted that unit cost include cost of medicines, not charge for medicines. This means the unit cost estimate did not allow for margin for medicines. According to the government rule, a margin of 5% to 25% to medicines can be charged to the patients. In such case, one of the policy scenarios to raise capitation rate is to allow margin for medicines.

Funding to health sector is Lao is low. There is a need for more government investment in infrastructure, increased staff salary and adequate funding for operation of health services. If such arguments are justifiable, there is a need to propose policy scenarios to increase capitation rate, one of the revenue sources to improve the functioning of hospitals. It is hoped that non-SHI members, as well as the poor would enjoy services in these well functioning hospitals.

Figure 4A is the total operating cost for 3 central hospitals in 2007. Figure 4B shows total operating cost after adjusting labour cost to 40% of total operating cost for all three hospitals. There is a significant hypothetical cost increases.

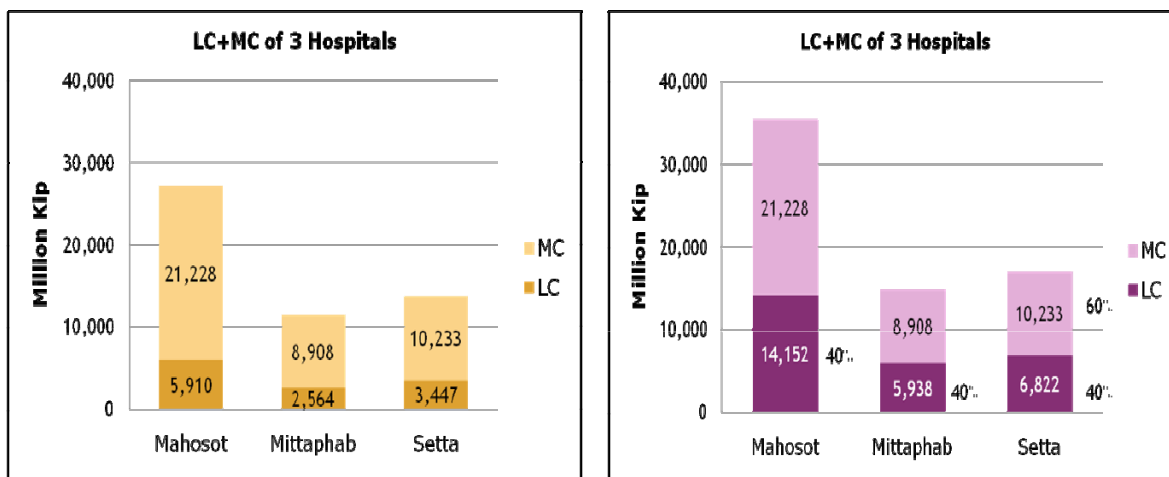


Figure 4A and 4B original cost and labour cost blows to 40% of total operating cost, 3 central hospitals 2007.

Policy scenarios

In order to increase capitation rate, we applied the forecast utilization rate in 2008 to 2010 without manipulation. We propose four policy scenarios to increase unit cost of services.

Scenario 1 There is no adjustment of the unit cost.

Scenario 2 Adjust 15% mark-up of medicines

Scenario 3 Blow up labour cost to 40% of total operating cost

Scenario 4 Combination of scenario 2 and 3, namely adjust 15% mark-up for medicines and blow up labour cost to 40% of total operating cost

Table 6 Unit cost under four scenarios, 2007

Policy scenarios	Mahosot		Mittaphab		Setta		Average	
	OP	IP	OP	IP	OP	IP	OP	IP
1. unit cost without adjustment	70,341	778,223	37,804	639,348	70,796	457,066	59,647	624,879
2. 15% margin for medicines	75,253	817,087	39,612	667,798	75,723	482,814	63,530	655,900
3. LC 40% of operating cost	88,399	1,051,118	49,037	842,679	82,632	601,691	73,356	831,829
4. LC 40% + 15% margin for medicines	93,310	1,089,982	50,845	871,130	87,559	627,439	77,238	862,850
Percent increase								
Scenario 2 and 1	7%	5%	5%	4%	7%	6%	7%	5%
Scenario 3 and 1	26%	35%	30%	32%	17%	32%	23%	33%
Scenario 4 and 1	33%	40%	34%	36%	24%	37%	29%	38%

As a result of such adjustment according to the policy scenarios, Table 6 shows unit cost for all three central hospitals and their average. On average, the unit cost per OP visit

would increase from 59,647 Kip in scenario 1 without adjustment, to 77,238 Kip for scenario 4, a 29% increase of unit cost.

Table 6 provides technical evidence of different unit cost given different policy choices; however, it is the political decision by responsible agencies in Lao PDR whether there is a need for such adjustment. If there is a need for adjustment, which scenario would be the optimum choice given the fiscal capacity of the SHI funds and which level of adjustment (range from 5-25% medicine mark-up and 1-50% labour cost out of operating cost)?

The unit cost under different scenario in 2007 was blown up to 2008 to 2010 using consumer price index of 4.5% per annum throughout the three years.

Capitation rates for 2007-2010

There are two unit cost figures, one is the high figures by Mahosot and the other is the average unit cost among the three central hospitals.

Table 7 Capitation rates in four scenarios, 2007 to 2010.

Policy scenarios	2007		2008		2009		2010	
	Mahosot	Avg.	Mahosot	Avg.	Mahosot	Avg.	Mahosot	Avg.
1. No adjustment	108,944	90,652	119,511	99,396	130,291	108,316	141,366	117,479
2. 15% margin medicines	115,788	96,076	126,997	105,330	138,432	114,769	150,179	124,466
3. LC 40% operating cost	140,521	114,613	154,250	125,757	168,258	137,127	182,653	148,808
4. LC 40% + margin medicine	147,364	120,037	161,736	131,691	176,399	143,580	191,467	155,796

Note: Avg. is the average unit cost of three central hospitals

When one multiplies the unit cost of outpatient and inpatients of the four different policy scenarios in 2008 to 2010 with the forecast use rate of outpatient and inpatient, one comes up with different levels of capitation rate. Table 7 summarises the capitation rates for 2007 to 2010 based on 4 policy scenarios and two sets of unit cost figures.

Table 8 Comparison of capitation rates, Kip per capita per annum

Year	Current rate	4.5% inflation adjustment from 2002 rate	Updates unit cost 2007-2010	
			Average three central hospital	Mahosot unit cost highest figure
2002	60,000	60,000		
2003	60,000	62,700		
2004	60,000	65,522		
2005	65,000	68,470		
2006	65,000	71,551		
2007	65,000	74,771	90,652	147,364
2008		78,136	99,396	161,736
2009		81,652	108,316	176,399
2010		85,326	117,479	191,467

Table 8 compares 2007 current capitation rate, 65,000 Kip with 74,771 Kip when simple 4.5% inflation adjustment was applied to 2002 level of 60,000Kip. If the average unit cost of three central hospitals was applied without adjustments, the capitation should be

90,652Kip, and when the highest figure of Mahosot unit cost was applied with adjustment of scenario 4, the capitation should be 147,364 Kip.

When applied the average three central hospitals without adjustment and with full adjustment in scenario 4, the capitation rate for 2008 should range from 99,396 Kip to 161,736 Kip. In the next year 2009, the capitation ranges from 108,316 to 176,399 Kip. For 2010, the capitation would range from 117,479 Kip to 191,467 Kip respectively.

5. Dissemination workshop

A dissemination workshop was convened by NIOPH on Tuesday 18 November 2008 at the Ministry of Labour and Social Welfare, chaired by the vice Minister of Labour. NIOPH presented the result of unit cost for 2007 in three central hospitals, whereas IHPP presented the results of capitation estimates for 2007-2010.

This workshop aims to provide a technical discussion, to fine tune the technical dimensions of unit costs and capitation rates; therefore there was no decision on the capitation rate from this meeting. Subsequent meetings would concentrate on discussion and decision on capitation rates for 2009 onwards; while take into account the views of two other insurance schemes: - Civil Servant Scheme (CSS) and Community Based Health Insurance (CBHI).

6. Discussions

6.1 Impacts of capitation

The current health financing reforms in Lao PDR covers three major directions. The SHI for private sector employees and dependants, the CSS for government employee and dependants, and CBHI, all applied capitation contract model. The adjustment of capitation in SHI may inevitably have major impact on the two other schemes (CSS and CBHI)

Three stakeholders involved in the adjustment of capitation rates, notably SHI beneficiaries, the contractor providers and the purchaser, Social Security Office. They all involved through the role of Medical Committee of the SHI.

The impacts would positive when a reasonable capitation rate was applied either reflect the real cost of service production, or allow some margins (as proposed in the four policy scenarios). Theoretically, one foresees better quality of services to patients and possible spill-over effects to overall non-SHI patients. However, there would be a financial pressure to the SSO. Which capitation rate would be applied, not only political decision, it depends on capacity to pay in medium and long term of the Scheme, and that further actuarial assessment is required.

When an unreasonable capitation was applied, one may foresee the following situation, poor quality of care to beneficiaries, financial constraint to hospitals and reluctant to enter into contract with SSO, and also the employer threatening withdrawal from SHI.

We would suggest convening forum of discussion among key stakeholders to reach consensus on agreeable capitation required. Stakeholders should be inclusive of partners in CSS and CBHI, as adjustment of SHI capitation has a major bearing on the capitation rate in CSS and CBHI as the same hospitals are contractors to these three different schemes. In such case, harmonization across three schemes in terms of benefit package and level of capitation is required.

6.2 Gainer and loser analysis

If the average cost of 3 central hospitals were applied, Mahosot which has higher unit cost than the average will be the loser, all other contractor providers are gainers including the two central hospitals and all other provincial and district hospitals in Vientiane, Khammuan and Savannakhet provinces.

In such case, Mahosot has to adjust itself to be more efficient, bringing down its unit cost to the average. However, in the next adjustment, it had to bring down its unit cost again. This is not possible as the quality of services would be jeopardized.

The likely scenario is to apply Mahosot unit cost in the estimate of capitation, so that all are gainers, except Mahosot no gain-no loss.

Which capitation and which policy scenarios are really matters of negotiation and policy decision. However, decisions should be based on an assessment of SHI and CSS funding status in medium and long term, and capacity to pay by CBHI beneficiaries.

6.3 Single versus multiple capitation rates

Is it necessary to apply a single capitation rate throughout the country? A single rate especially when high rate scenario applied (using Mahosot unit cost) all providers would be gainers. This requires significant more resource paid by the SSO, for which one may challenge what are the health gain from such higher capitation. The SSO may need to re-look into investment more on health promotion and diseases preventions for their members.

Different capitation rate between providers in Vientiane Capital and Province is justified as the unit costs in central hospitals and use rates are much higher. SSO may consider a simple two capitations one for Vientiane capital and the other for the rest of contractor providers. However, unit costs of provincial providers are necessary inputs for the estimates of capitation rate for provincial level.

This may in the future provide SSO with better choices in financing contractor hospitals with different cost and use rates.

6.4 Frequency of capitation revision

The regularity of capitation revision can be on an annual basis or at least at a cycle of 2 to 3 years. An annual update requires SSO technical capacity to assess unit cost of hospitals on a regular basis. SSO has a good database and readily availability of OP and IP use rates. If hospitals have a good financial information system, especially in electronic form, it would easily facilitate the estimate of unit cost either with the application of conventional costing methods or quick method.

Quick method for the estimate of unit cost applies a simple method. The cost weight of unit cost per admission to unit cost per OP visit is applied. Table 9 demonstrates a cost weight of 11.1 for Mahosot, 16.9 for Mittaphab and 6.5 for Setta. The average cost weight for 3 central hospitals are 10.5. This means it was 10.5 times more costly for one admission case than one outpatient visit.

Table 9 cost weight of unit cost per admission to unit cost per OP visit, 2007

Mahosot	Mittaphab	Setta	Average
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OP (Kip/visit)	70,341	37,804	70,796	59,647
IP (Kip/admission)	778,223	639,348	457,066	624,879
Cost weight	11.1	16.9	6.5	10.5

Cost weight is applied to the routine annual statistics of a hospital, see the formulae below. Cost weight is applied to multiply number of admission cases to be equivalent to number of OP visits. The sum of OP visits and the IP case X cost weight would be the denominators to divide the total operating cost of services to come up with unit cost per OP visit.

Quick costing formula

$$\text{Unit cost per OP visit} = \frac{\text{Total operating cost}}{\text{OP visit} + (\text{IP case} \times \text{cost weight})}$$

$$\text{Unit cost per IP case} = \text{Unit cost per OP visit} \times \text{cost weight}$$

Cost weight came from standard costing methods

6.5 Limitation of this study

Unit cost estimation in 2007 was based on only three central hospitals while contractor hospitals include three central hospitals, three provincial hospitals and a district hospital (as of end 2008). It is strongly recommended that standard costing exercise should be conducted at all levels of hospital. Unit cost based on this method presented the average unit cost, not the unit cost of SHI patient. In future, costing by health insurance scheme should be considered when health information system of the hospital is well established in electronic form.

7. Policy recommendations

The SHI capitation rate has not been revised since 2005 despite the fact of slow increases in the utilization rates and inflation of medical goods and services. The contractor providers voiced several times their concerns over the small capitation rate not reflecting the true cost of service provisions. In such context revision is inevitable.

However, the revision of SHI capitation does have implications to the other two insurance schemes, the CSS and CBHI. It is recommended that capitation revision should be done in a manner of close consultation with relevant partners in the other two schemes, in the light of harmonization of capitation rate, benefit package and level of affordability by each insurance scheme.

In the light of great variation in use rate and unit cost of production between hospitals in the Vientiane Capital and provinces, there is a need for convene policy dialogue to exchange view and reach a consensus if capitation should be one single figure through out the country for all insurance schemes, or should it be two capitation rates, one higher for Vientiane Capital and the other lower figure for providers outside the Capital. There are always pros and cons of single capitation rate versus two or multiple rates. This step of decision should be made very cautiously and guided by evidence and consultations.

Note with appreciation that there is human capacity in Lao in conducting unit cost assessment. This is the legacy of expert missions in the past years, not only provide technical advices, but imparting technical skills to various counterpart bodies in the MOH, SSO. These capacities should be maintained and strengthened. Regular updates of unit cost and capitation estimate by Lao partners found feasible. Where necessary, independent peer review is useful, as an entry point for audit, review and human capacity strengthening.

8. Acknowledgements

We wish to thank NIOPH and SSO for primary data collection and estimate unit cost, administrators and staffs in three Central Hospitals who provided financial information, Mahosot, Mittaphab and Settathisrat hospitals, and WHO for supports in costing estimate by NIOPH and SSO and external peer review by IHPP.

9. Electronic Annexes

There are a total of 14 files (13 excel files and 1 PPT file) of annexes attached herewith.

No.	File name	Type of file
1	000 Capitation	Excel
2	011 Mahosot	Excel
3	012 Mahosot Med15	Excel
4	013 Mahosot LC40	Excel
5	014 Mahosot LC40 Med15	Excel
6	021 Mittaphab	Excel
7	022 Mittaphab Med15	Excel
8	023 Mittaphab LC40	Excel
9	024 Mittaphab LC40 Med15	Excel
10	031 Setta	Excel
11	032 Setta Med15	Excel
12	033 Setta LC40	Excel
13	034 Setta LC40 Med15	Excel
14	Capitation estimation	Power point