

## Umfassender Versicherungsschutz im thailändischen Gesundheitssystem: eine Nutzenanalyse

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## Studie

# **Umfassender Versicherungsschutz im thailändischen Gesundheitssystem: eine Nutzenanalyse**

Chalermpol Chamchan

### **Abstract**

Mit Hilfe der thailändischen Sozial- und Wirtschaftsdaten aus dem Jahre 2002 untersucht der Aufsatz die Nutzenverteilung im thailändischen Gesundheitssektor. Analysiert werden die Verteilungen medizinischer Nutzen von diversen Gruppen innerhalb des thailändischen Gesundheitssystems. Die Studie kommt zu dem Ergebnis, dass der Nutzen auf jeder Ebene des Gesundheitswesens im Vergleich zur Zahlungsfähigkeit der Patienten gleich ausgeprägt ist. Bezieht man jedoch die Qualität der Einrichtungen ein, erkennt man einen ungleichen Zugang von Menschen mit unterschiedlichem sozio-ökonomischen Status. Die reiche Bevölkerung wird in Provinzkrankenhäusern, die eine bessere und spezialisiertere Behandlung ermöglichen, begünstigt. Einrichtungen mit begrenzter Behandlungsmöglichkeit wie Gesundheitszentren und Gemeinschaftskrankenhäuser behandeln hingegen eher die ärmeren Bevölkerungsschichten. Der Artikel diskutiert den ungleichen Zugang zum Gesundheitswesen, die Fehlallokation von Gesundheitsressourcen im Land, die Anwendung von Nebenzahlungen unter dem 30-Baht-Gesundheitssystem und die Überlappungen in den Zuweisungen im Allgemeinen Gesundheitssystem Thailands.

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*Key words:* Thailand, Gesundheitssystem, Verteilung

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## 1 Introduction: Thailand and Universal Coverage (UC)

Universal Coverage (UC) generally aims at establishing equal rights in access to health care as well as equal quality of care obtained by the patients, irrespective of income group or socio-economic status. Considering the experiences of health care reforms in developed countries, UC can be seen as a means to procure sufficient protection for patients against costly medical expenses by securing accessibility to needed health care at affordable prices and, therefore, as a necessary attempt to improve the health outcomes of the population. In UC, two dimensions of coverage are incorporated – *population coverage* (health care for all) and *health care coverage* (adequate health care). Even if UC is believed to promote access to health care with the focus on vulnerable groups, completion of the coverage over the whole population, nevertheless, does not guarantee adequate and equitable health care coverage.

With the introduction of a new health scheme, the so-called 30 Baht Treating All Diseases Scheme, Universal Coverage (UC) was adopted nationwide in Thailand in October 2001.<sup>1</sup> Those who were not receiving health benefits from the two existing medical schemes – the Civil Servant Medical Benefit Scheme (CSMBS) and the Social Security Scheme (SSS) – were entitled to receive the 30 Baht card – or Gold Card – enabling them to access health care at the contracted facilities for only 30 Baht (about 0.75 US dollar) co-payment at each episode.

In addition to the three main objectives of the UC policy declared by the Ministry of Public Health (MOPH) in March 2001 – (1) universal coverage, (2) single standard for benefits and health care, and (3) sustainable system<sup>2</sup> – in this paper, it is suggested that another objective should also be added – fairness of the benefit allocation. The first objective, the primary aim of the UC policy, is to entitle all citizens to health care access according to their needs (equality of access), while the second is to assure the same standard of benefits and quality of care provided (equality of allocation). Equality of access and allocation are declared separately because access to treatments and receipt of the treatment are not the same thing. The equality of access therefore will not necessarily result in equal health care allocated according to needs (Le Grand 1982).<sup>3</sup> Sustainability

<sup>1</sup> The expansion of coverage to the whole country including the inner Bangkok districts was fully implemented in April 2002. Tangcharoensathien et al. (2004), *From Policy to Implementation*.

<sup>2</sup> WHO/SEA (2004), *Regional overview of Social Health Insurance*, Annex 6, pp. 196.

<sup>3</sup> Culyer and Newhouse (ed.) (1993), *Handbook of Health Economics: vol. 1B*, p.1812.

of the system, the third objective, does not refer only to financing, but also institutions and long term performance. The 30 Baht Scheme, a tax-based financing system via government subsidies not a contribution-based system like social health insurance, is a combination of organizational and technical arrangements of national cross-subsidizing from “low-risk to high-risk” individuals by “government subsidy-pooling”.<sup>4</sup> Fairness of benefit allocation according to *risk-related needs* therefore should be considered as one of the key objectives to achieve.

Due to the differences in benefits and financing practices among sub-health financing schemes, the distribution of health benefits and implicit financial assistance are questioned and investigated in this study. Who are the major beneficiaries and are the benefits equally, progressively or regressively allocated among the population groups are the main analysis questions. An overview of the 3 sub-health schemes under Thailand’s UC is given in the next section. The methodology, named Benefit Incidence Analysis (BIA), investigated in this study is described in section 3. In section 4, distribution of the Benefit Incidence for both outpatient and inpatient care is presented. Brief discussions on aspects of equity, fairness and accessibility are then given in section 5 with a summary and concluding remarks in section 6.

## 2 Overview of the 3 Sub-Health Financing Schemes

Presently, Thailand’s public health security with UC consists of three major health and welfare schemes. A summary of the main features of those schemes is presented in table 1.

1) Civil Servant Medical Benefit Scheme (CSMBS) is a package of welfare and health care benefits for active and retired government employees and public sector workers, as well as their dependents including spouse, parents and children. In 2002, regarding the compilation from the Socio-Economic Survey (SES2002), the number of government and public sector workers was estimated to be around 2.5-3 million and 6-6.5 million including their dependents; the latter represented 9-10 percent of total population.

The CSMBS is totally financed via general taxes. Expenditure per beneficiary was estimated to be as high as 3,800 Baht (Na Ranong V. et al. 2002). The rapid

<sup>4</sup> As cited in WHR 2000 p.100, ‘in the majority of health systems, risk and income cross-subsidization occurs via a combination of two approaches: pooling and government subsidy’, financing of the 30 Baht Scheme is an example of cross-subsidizing via the pooling of government subsidy.

*Table 1: Thailand's Universal Coverage (UC) and Financing in 2002: Summary*

Pre-UC (until 2001)	1. The Civil Servant Medical Benefit Scheme (CSMBS)	2. The Social Security Scheme (SSS)	3. The Medical Welfare Scheme (MWS)
<b>The UC (from 2001 on)</b>	<b>1. The CSMBS</b>	<b>2. The SSS</b>	<b>3. The 30 Baht Scheme</b>
Population groups covered	Government employees, public sector workers and dependents	Private employees	Self-employed and the rest of the population not covered by the CSMBS and the SSS
Estimated population coverage in 2002 (as % of a total population: of 63.7 millions)*	9-10%	10-12%	70-75%
<b>Financing</b>			
Source of financing	General tax	3% (1% each from the employee, employer and government) **	General tax and co-payment
Financing agent	Ministry of Finance (MOF)	Social Security Office (SSO)	National Health Security Office (NHSO), MOPH
Provider payment method	Fee for services and DRG	Capitation	Capitation

*Notes:* \* Compiled from the Socio-economic Survey (SES 2002) of the NSO, percentage of the population who are not yet covered by any health schemes is 12.7 percent. \*\* From 2004 on, the contribution is 4.5 percent with 1.5 percent each by the employee, employer and government.

*Source:* National Health Security Office (NHSO) and National Statistical Office (NSO), 2003.

escalation of health expenditure in the CSMBS scheme is the result of problems with cost-containment, especially incentives for providers to over-prescribe due to the use of the fee-for-service payment method. However, a first step in cost containment was taken in April 2002 with the introduction of the Diagnosis Related Groups (DRGs) system for the payment of inpatient services.

2) The Social Security Scheme (SSS) provides social health insurance benefits and is compulsory for employees in private enterprises with more than one worker.<sup>5</sup> However, presently compliance with the SSS is not yet complete. In 2002, the number of workers covered stood at around 6.90 million,<sup>6</sup> out of 11.27 million employed in the private sector, representing about 11 to 12 percent of the total population. The Social Security Office (SSO) manages the SSS. Contributions into the SSS fund are from three parties: employee, employer and the government, each contributed 1 percent<sup>7</sup> of the employee's salary during the period 1998-2003 but will be 1.5 percent each from 2004 on. Providers that have a contract with the SSO are paid on a capitation basis; the average amount per capita was 1,532 Baht in 2002.

3) The 30 Baht Scheme was introduced to cover the population that was neither covered by the CSMBS nor by the SSS; this particular population group also included those that were formerly assisted by the Medical Welfare Scheme (MWS) or covered via the Voluntary Health Card (VHC) scheme. The 30 Baht Scheme derives its name from the amount patients have to pay themselves, the co-payment, for each visit at the contracted health facility. The bulk of financing, however, comes via general tax revenue under the supervision of National Health Security Office (NHSO), Ministry of Public Health (MOPH). Health care is paid for with the per capita method, the capitation, where the amount is calculated on the basis of the number of people covered, the utilization rates, and the unit cost for both outpatient and inpatient care. In 2002, with the use of the utilisation rates and unit costs data from 1997 and 2000, respectively, the capitation amount was assessed by the MOPH's International Health Policy Programme (IHPP) at 1,202.4 Baht.<sup>8</sup> In spite of the intention to achieve equitable service provisions at

<sup>5</sup> During 1991 to 2002, the requirement was obliged only to the enterprises with or more than ten workers.

<sup>6</sup> Social Security Office (SSO). Online: <http://www.sso.go.th/knowledge/link/statisticsmid3.html>.

<sup>7</sup> Up to 1997, before the financial crisis, the rate was once at 1.5 percent.

<sup>8</sup> Re-calculated with the newly available data, the should-be capitation amount in 2002 was found higher at 1,447 Baht. Patcharanaruemol, W. et al. 2004.

affordable prices, the 30 Baht Scheme encountered problems of under-financing, budget limitation, and low rate capitation. Some have been concerned about the qualities of care provided, as well as the sustainability and financing feasibility of the scheme in the long run.

### **3 Methodology: The Benefit Incidence Analysis (BIA)**

The Benefit Incidence (BI) is defined here as those costs not covered by way of payments of patients but by the government and related health agencies. The service-specific benefit incidence is calculated as  $BI_{ki} = q_{ki}c_k - f_{ki}$ ,<sup>9</sup> where  $q_{ki}$  is the quantity of specific service  $k$  (OP and IP care) utilized by individual  $i$ .  $c_k$  is the unit cost at the health facility in providing service  $k$ . And  $f$  is the medical expenses paid by patients which cannot be reimbursed from the health security or insurance system. In this paper, three types of public health facilities are considered: health centers, community hospitals, and provincial hospitals.<sup>10</sup>

The distributions of service-specific BI are analysed by socio-economic deciles where the patients are categorised in regard of their 'expenditure for consumption'. Here, two categories of the deciles are considered. One is deciles-ranking within the 'whole population', while the other is one within 'the patients who utilise the service at the facility type being analysed'.<sup>11</sup>

The BI's distributions are examined regarding deciles in two categories.

- a) Proportions of the BI attained by decile-groups
- b) The Concentration Index (CI). The convention for Benefit Incidence Analysis (BIA) is that if a disproportionately large BI is attained by patients in the lower deciles, in relation to ones in the higher deciles, the CI will take a negative value, and vice versa.
- c) The Kakwani Index (KI). The KI's value ranges from 2 to -1, which is formulated as  $KI = G - CI$  where  $CI$  is the BI's concentration index and  $G$  is the Gini coefficient of the socio-economic variable. A positive value indicates progressivity

<sup>9</sup> The complete formula is  $BI_{ki} = q_{ki}c_{kj} - f_{ki}$ , where  $c_{kj}$  is the unit cost of providing service  $k$  in the region where  $i$  resides,  $j$ . Due to the difficulties in classifying the individual by region and limitations of data availability,  $c_k$  is instead replaced.

<sup>10</sup> Only the BI distributed at public facilities is examined as, at the beginning of UC implementation, more than 90 percent of the contracted facilities are in the public sector.

<sup>11</sup> Due to the fact that not everyone would get sick and utilize health cares at the specific facility type being analyzed, the deciles in second category is, thus, the ranks only among patients get sick and utilize the care.

of the distribution that, out of the total, the poor get more proportion of benefit (even when compared to the rich it is less) than the proportion of socio-economic values they possess and share in, and vice versa.<sup>12</sup>

Complementarily to the BIA,<sup>13</sup> changes in the expense burdens of medical services and medical supplies of the individual by deciles before and after UC implementation are in addition examined.

## 4 Empirical Findings 2002

The findings<sup>14</sup> consist of three subsections, of which the analyses of BI's distributions for outpatient (OP) and inpatient (IP) care are presented in the first and the second subsection. The BIAs at specific types of health facility are exhibited by decile-groups of the patients ranked by their socio-economic statuses, for which the 'expenditure for consumption' is used as the proxy, in two categories.

1. Category 1: The deciles ranked within the *whole population* are considered.
2. Category 2: The deciles ranked within only *the patients who utilize health cares* are considered.

By deciles regarding each category, the BI's distributions are analysed and exhibited in two situations. One is when all patients are included, regardless of which health financing scheme they are covered by. The other is when only the patients of the 30 Baht Scheme are included. Nevertheless, findings from the BIA by deciles regarding category 2 for both OP and IP care show no significant differences between the situations, consequently, only the findings in the first situation are presented.

The last subsection demonstrates relative changes in medical expense burdens of the individuals before and after the UC implementation.

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<sup>12</sup> A progressive benefit incidence, simply indicating the vertical equity, is defined as one whose average rate falls as gross income increases. Ducros J.Y. (1995).

<sup>13</sup> World Bank (WB), *Quantitative Techniques for Health Equity Analysis* (World Bank): Technical note 12.

<sup>14</sup> See Appendix (B) for the sources of data.

## 4.1 The BIA for Outpatient (OP) Care

### **By Deciles of Total Population (Category 1)**

According to table 2, when all patients are included in the analyses, the Concentration Indexes (CIs) of the BI's distributions at health centers and community hospitals are negative, implying a disproportionately larger share of BI is allocated to the poor patients, while at provincial hospitals the index is positive, implying conversely that the larger share is instead allocated to the rich patients. The poorest patients in D1 attain around 21 percent of total BI distributed at health centers, while ones in D2-D5 each receive around 13 to 15 percent of the BI at community hospitals. At provincial hospitals, the largest portion (16 percent), on the other hand, is delivered to the richest patients in D10. Of the BI distributed in total, CI is negative with a small magnitude. Patients in the middle deciles from D2 to D7 are found as the major beneficiaries. The portion to each decile is around 10 to 12 percent of total BI that the largest one to D5 is 13.2 percent. In all cases, the Kakwani Index (KI) appears positive even with varied magnitude. It implies that the BI is distributed progressively to the socio-economic status by deciles, regarding the ranks in category 1.

When only the patients of the 30 Baht Scheme are considered, CIs of the distributions at health centers and community hospitals are also negative with indifferent magnitude, compared to the case when all patients are considered. Of the distribution at provincial hospitals, even though CI is still positive, its magnitude is significantly less (0.1795 and 0.0257). The percentage of BI attained by the poor in D1-D5 is obviously higher, while that attained by the rich from D8 up to D10 is accordingly lower. Tentatively, the 30 Baht Scheme seems able to better assist patients in the middle-lower classes from D2 to D5, those in average each attain 13 to 15 percent of the total BI for OP cares. Kakwani Indexes (KIs) with larger magnitude also collaborate the improved progressivity of BI's distributions.

### **By Deciles of Patients (Category 2)**

Presented in table 3, the distributions of BI at all facility types – health centers, community hospitals and even provincial hospitals – are pro-poor with negative CIs by the decile-groups in category 2. The poor patients, especially in D1 and D2, are found attaining the largest proportion of BI. Kakwani Indexes (KIs) are also positive, corroborating progressivity of the distributions in all cases. From what

Table 2: BI for OP Care by Health Facility and Socio-Economic Deciles (Category 1)

Deciles	All patients			The 30 Baht Scheme's patients			Total
	Health Center	Community Hospital	Provincial Hospital	Health Center	Community Hospital	Provincial Hospital	
D1 (Poorest)	20.9%	12.4%	4.3%	9.9%	19.4%	11.5%	10.6%
D2	13.0%	14.5%	5.9%	10.9%	14.2%	14.8%	12.5%
D3	14.2%	15.2%	7.4%	11.9%	14.0%	16.2%	13.5%
D4	10.1%	13.0%	9.2%	11.2%	12.2%	13.2%	12.9%
D5	14.3%	14.5%	11.4%	13.2%	14.0%	14.6%	14.4%
D6	9.2%	12.6%	9.0%	10.8%	8.2%	12.4%	10.8%
D7	9.6%	10.9%	12.0%	11.2%	9.3%	11.1%	12.9%
D8	5.8%	2.8%	13.9%	7.6%	5.8%	2.2%	11.7%
D9	1.9%	4.0%	10.9%	6.9%	2.4%	3.6%	7.9%
D10 (Richest)	1.0%	0.5%	16.1%	6.4%	0.7%	0.4%	8.2%
Cl <sub>s</sub>	-0.305	-0.257	0.179	-0.083	-0.306	-0.257	0.026
KI <sub>s</sub>	0.713	0.664	0.228	0.491	0.713	0.664	0.575

Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.

we found by deciles in category 1, this evidence differs from case to case, especially in the case of provincial hospitals where the rich patients are now attaining the lesser portion of BI as compared to the poor patients.<sup>15</sup> The contrasts between the findings by deciles in the two categories will be discussed later in the aspects of equalities, fairness and accessibilities in section 5.

*Table 3: BI for OP Care by Health Facility and Socio-Economic Deciles (Category 2)*

Deciles	Health Center	Community Hospital	Provincial Hospital	Total
D1 (Poorest)	14.4%	12.7%	12.6%	14.10%
D2	13.7%	11.5%	12.4%	13.70%
D3	11.7%	11.7%	10.9%	11.70%
D4	11.1%	11.8%	10.9%	10.30%
D5	7.6%	11.8%	9.1%	10.40%
D6	11.0%	11.2%	10.6%	9.70%
D7	10.2%	10.5%	10.1%	10.40%
D8	7.1%	10.3%	7.3%	5.80%
D9	8.6%	3.5%	7.7%	7.20%
D10 (Richest)	4.6%	4.9%	8.4%	6.80%
CIs	-0.1475	-0.1402	-0.0901	-0.1410
KIs	0.4530	0.4698	0.5026	0.3750

*Notes: For both outpatient and inpatient care (table 5), the BI's distribution among all patients is solely presented. When only patients of the 30 Baht Scheme are considered, the patterns of the BI's distribution are insignificantly different and, therefore, not presented.*

*Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.*

## **4.2 The BIA for Inpatient (IP) Cares**

### **By Deciles of Total Population (Category 1)**

As for the situation when all patients are included, the Concentration Index (CI) of the BI's distribution for IP cares is negative (pro-poor) with significant magnitude at community hospitals, but slightly positive (pro-rich) at provincial hospitals. At community hospitals, around 30 percent of the BI distributed is attained by poor patients in the two poorest deciles, D1 and D2, while only about 6 percent is attained by rich patients in D9 and D10. At provincial hospitals, on the contrary, less than 14 percent of BI is distributed to patients in D1 and D2 while nearly 23

<sup>15</sup> The patients are from the same group but classified differently according to each category of decile.

percent is distributed to patients in D9 and D10. The BI's distribution in total tends to be pro-poor with negative CI. The proportion each attained by patients in D1 up to D4 is around 10 percent, in D5 and D6 is around 11 to 12 percent, and in D8 up to D10 is the least, around 8 percent. Regarding Kakwani Indexes (KIs), BI is indicated distributed progressively to the socio-economic status by deciles at all cases.

*Table 4: BI for OP Care by Health Facility and Socio-Economic Deciles (Category 1)*

Deciles	All patients			The 30 Baht Scheme's patients		
	Community Hospital	Provincial Hospital	Total	Community Hospital	Provincial Hospital	Total
D1 (Poorest)	14.5%	7.6%	10.10%	15.6%	10.8%	12.90%
D2	16.1%	6.2%	9.90%	19.3%	9.0%	13.50%
D3	14.2%	8.1%	10.30%	15.6%	11.9%	13.50%
D4	12.3%	9.0%	10.20%	12.8%	11.8%	12.20%
D5	13.5%	12.3%	12.70%	12.9%	13.7%	13.30%
D6	10.2%	11.7%	11.10%	9.4%	12.5%	11.20%
D7	7.9%	12.6%	10.80%	7.1%	12.6%	10.30%
D8	5.0%	9.9%	8.10%	2.8%	7.7%	5.50%
D9	4.1%	11.2%	8.60%	3.5%	6.3%	5.10%
D10 (Richest)	2.3%	11.5%	8.10%	0.9%	3.8%	2.50%
CIs	-0.2560	0.0892	-0.039	-0.3278	-0.1016	-0.199
KIs	0.6635	0.3183	0.4465	0.7353	0.5091	0.6068

*Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.*

When only the IP's patients of the 30 Baht Scheme are included, similar remarks to the BIA for outpatient (OP) care are discovered. At community hospitals, larger proportions of BI are distributed to patients in the low deciles from D1 up to D5, compared to those in the rich deciles, especially from D8 up to D10. CI, consistently, appears more negative than when all patients are included. At provincial hospitals, CI turns negative (-), patients in the middle deciles are found as the major beneficiaries. By proportion, patients in the poorest group benefit around 11 percent, while ones in the richest group receive just only 3.8 percent. Of the BI attained by the 30 Baht Scheme's patients in total, the distribution is indicated to be more pro-poor with the larger negative magnitude of CI preferentially apportioned to patients from the low up to the middle deciles, from D1 to D5, than to ones in the upper deciles, from D8 to D10.

### **By Deciles of Patients (Category 2)**

By deciles regarding category 2, the distribution patterns of the BI for IP care are similar to ones we find in the BIA for OP care. CIs are negative in all cases, connoting patients in the low deciles obtain a larger percentage of the BI compared to ones in the high deciles. The gaps in benefit obtainment can obviously be seen by comparisons between D1 (or D2) and D10 (or D9). Of the total BI distributed, patients in the two poorest deciles attain 28 percent while others in the two richest deciles receive only about 14 percent.

*Table 5: BI for OP Care by Health Facility and Socio-Economic Deciles (Category 2)*

Deciles	Community Hospital	Provincial Hospital	Total
D1 (Poorest)	11.3%	11.3%	15.30%
D2	11.0%	10.8%	12.70%
D3	10.7%	10.7%	10.60%
D4	10.6%	10.6%	11.70%
D5	10.9%	9.9%	10.60%
D6	11.5%	10.1%	9.70%
D7	10.7%	9.5%	8.20%
D8	9.6%	8.8%	6.90%
D9	7.0%	9.7%	7.20%
D10 (Richest)	6.8%	8.7%	7.10%
CIs	-0.0724	-0.0445	-0.1422
Kis	0.4177	0.4535	0.3940

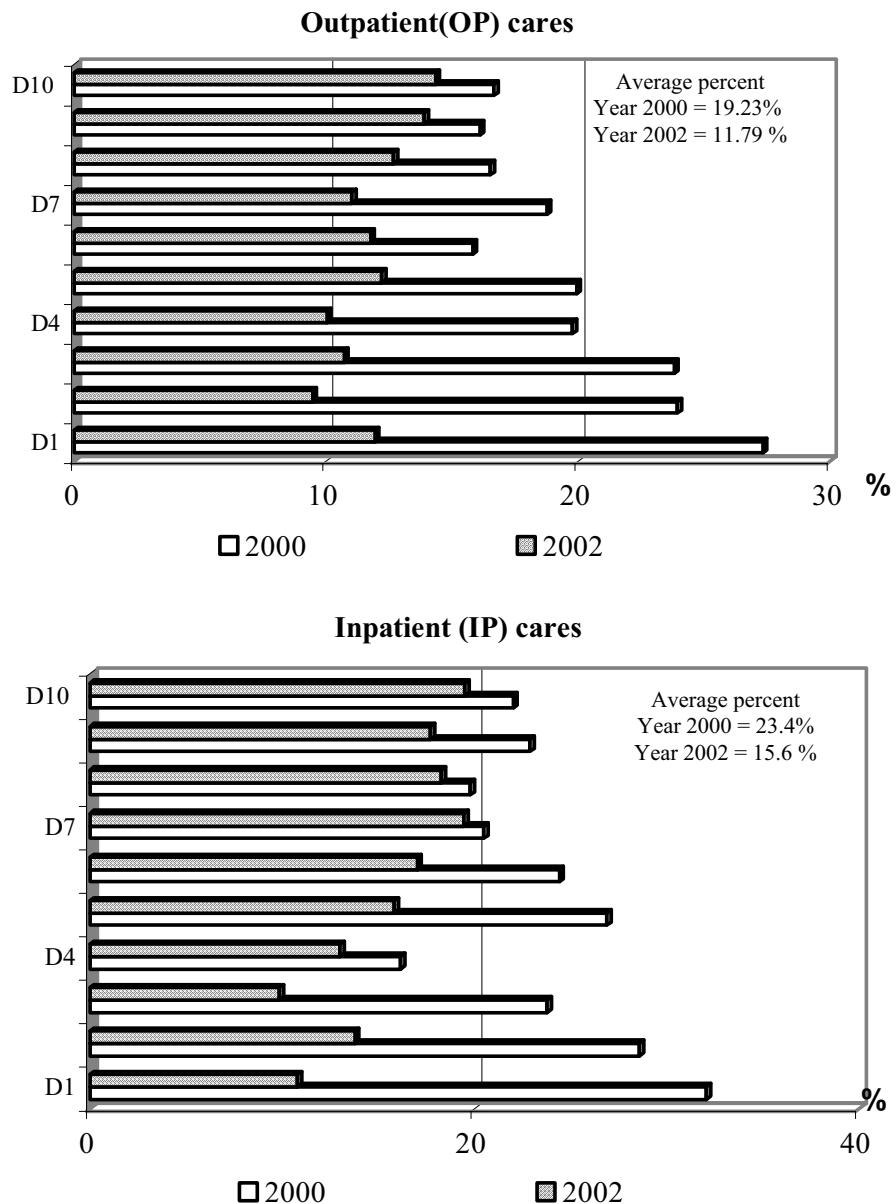
*Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.*

### **4.3 The Burden of Personal Medical Expenses: Year 2000 and 2002**

Regarding figure 1, as an average percentage of total consumption expenditure, the burden of medical care expenses decreases in all deciles<sup>16</sup> for both OP and IP care in 2002. In addition, the reductions found are significantly larger in the poorest decile (D1, from 31 percent to 12 percent) than in the richest decile (D10, from 21 percent to 16 percent). Once in 2000, the percentage of the burden was even higher in D1 than D10, this exemplar changes conversely in 2002.

<sup>16</sup> The deciles are ranked for the whole population.

*Figure 1: Medical Care Expense as Percentage of Total Consumption Expenditure by Deciles: 2000 and 2002*



Source: Author, computed from the database of the SES2000 and the SES2002, Record 6, NSO.

The Kakwani Indexes in table 6 also corroborate changes as in the evidence above. The burden of expenses for OP and IP care altered from being regressive (-) in 2000 to progressive (+) in 2002, just one of the medical supplies is still found regressive, with negative KI.

*Table 6: Comparison of Kakwani Indexes of the Medical Expenses*

Expense Items	2000	2002
OP service expense	-0.0646	0.05237
IP service expense	-0.0536	0.03159
Total medical service expenses (OP + IP) (1)	-0.0472	0.04692
Medical supplies expense (2)	-0.127	-0.148

Notes: + Values: Progressive, - Values: Regressive

Source: Author, computed from the database of the SES2000 and the SES2002, Record 6, NSO.

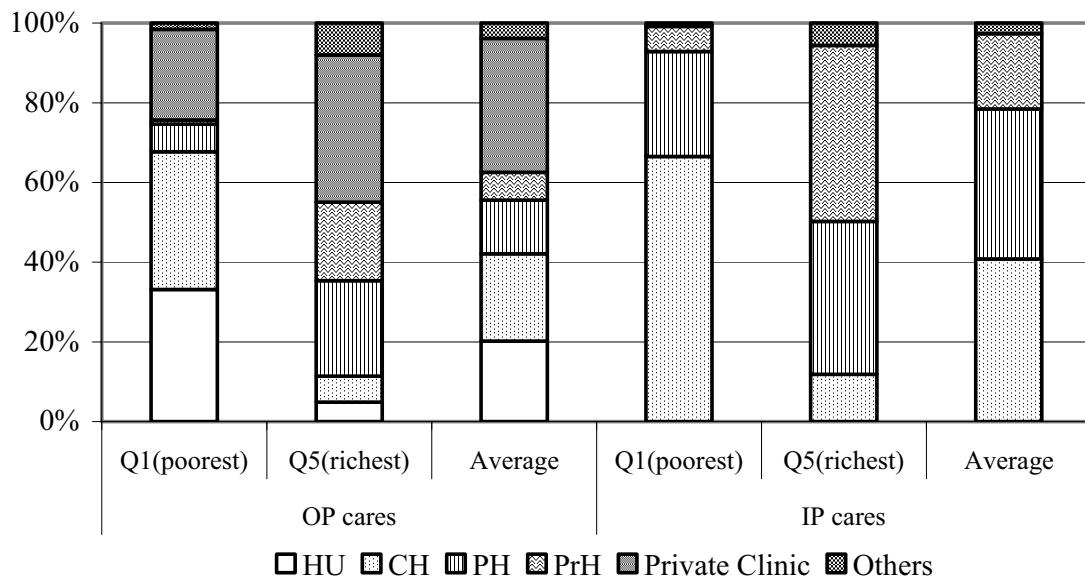
## 5 Benefit Incidence Allocation: Inequality, Fairness, and Accessibility

Combining the findings from BIA by deciles in two categories for OP and IP care brings us to some inferences.

In respect of the decile-groups in category 2, the implicit health assistance, defined as the Benefit Incidence (BI), is allocated in regard to the ability to pay<sup>17</sup> of the *patients who utilize specific care* – outpatient and inpatient care – at all types of public health facility. Simply said, by dividing patients into ten groups equally according to their socio-economic status, we find those in the lower deciles gain the larger share of BI than ones in the higher deciles. Nevertheless, respecting the deciles in category 1 ranked within the *whole population*, unfair BI's distributions by the gradations of health facility type are discovered. BI distributed at health centers is mainly allocated to patients in the poor deciles (only for OP care). At community hospitals it is allocated more to patients in the middle to low deciles, while at provincial hospitals, in contrast, it is allocated more to those in the rich deciles. In other words, there is a *descending order in the level of health facilities* in the distribution of BI across the range of patients, regarding the deciles of the whole population.

<sup>17</sup> Daniels et al. (1996), *Benchmarks of Fairness for Health Care Reforms: Benchmark 5 of Health Equity*.

*Figure 2: Patterns of Health Care Utilisation by Quintiles (Q1 & Q5) as Percentage of Total Visits, 2002*



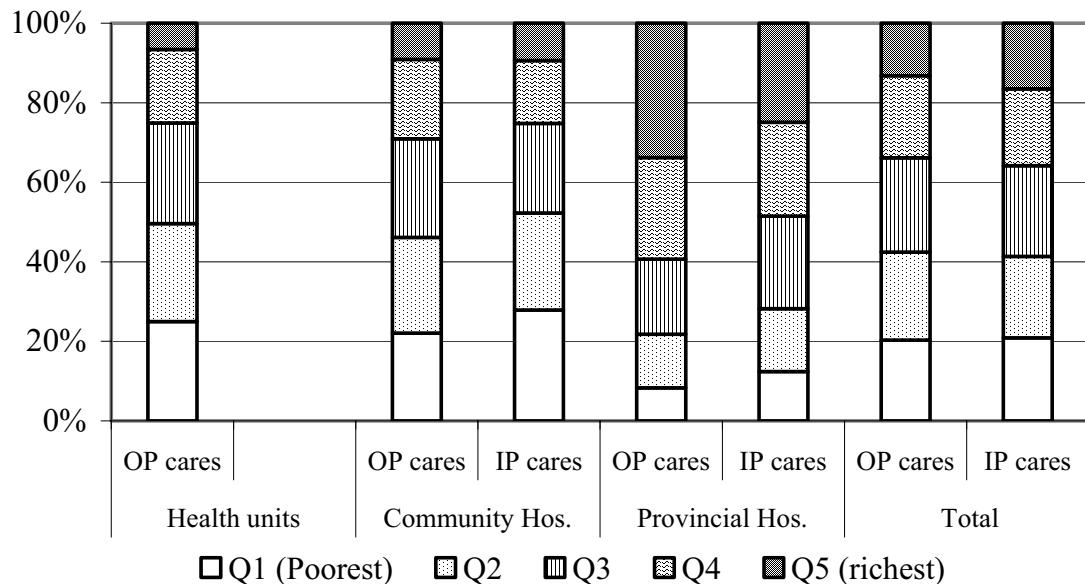
Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.

In figure 2, patterns of health care utilisation by patients by quintiles (Q1 and Q5) are presented. The figure indicates nearly 70 percent of patients in the poorest quintile (Q1) visit health centers (HU) and community hospitals (CH) for OP care, while about 24 percent and 20 percent of those in the richest quintile (Q5) visit provincial hospitals (PH) and private hospitals, respectively. On average, regardless of the quintiles, one-third of the patients utilise the care at private clinics where, in most of the cases, all medical expenses are paid out-of-pocket, and about 20 percent of patients use health care at health centers and community hospitals, respectively.

For IP care, more than 65 percent of patients in Q1 visit community hospitals, while 44 percent and 38 percent in Q5 go to private hospitals and provincial hospitals, respectively. On average, community hospitals are counted as the first alternative (about 41 percent) while provincial hospitals are the second (about 38 percent) for patients for IP care.

From these patterns of care utilising, inequitable access by patients across the socio-economic statuses are tentatively indicated. Looking at figure 3, with

Figure 3: Percentage of Visits at Health Facilities by Quintiles, 2002



Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.

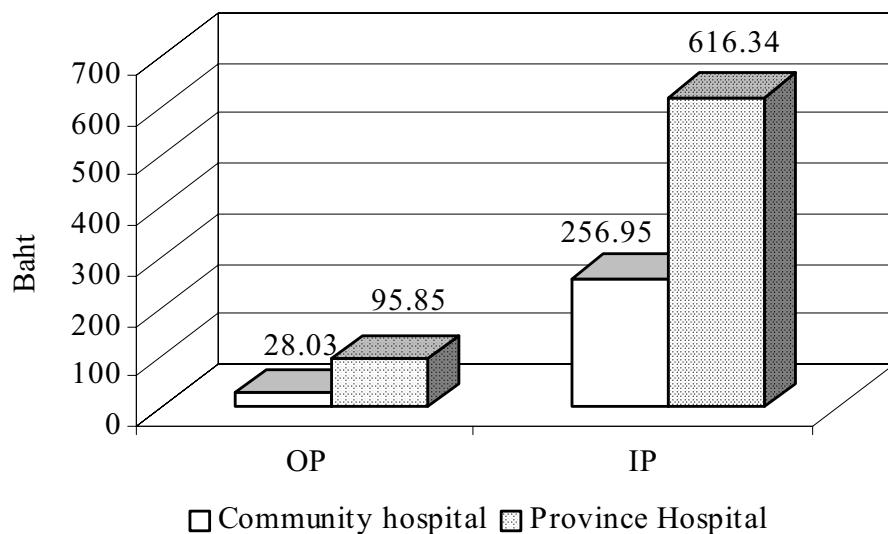
the evidence in percentage of visits at health facilities by patients in quintiles, the hypothesis above is verified. Health care at facilities in the lower levels of gradation – health centers and community hospitals – is more proportionately utilised by poor patients in Q1 and Q2, in contrast to care provided at facilities in the higher level – provincial hospitals – which are utilised more by rich patients in Q4 and Q5.

Ideologically, Universal Coverage (UC) involves the basic principles of universal inclusion and universal access, or coverage and participation.<sup>18</sup> Universal inclusion is a necessary condition but not sufficient to ensure equitable and universal access to health care provided. For Thailand, as shown by the evidence, even if coverage with public health assistance has helped patients, especially those of poor status, eliminate the *financial barriers*, they are possibly still prevented from accessing health cares by some *non-financial barriers*, which are the matters of geography (distance to health facilities), cost of transportation (both in terms of time and expense), income lost from not working, availability of health resources, patient capacities as well as the range of treatments the facilities (in their access)

<sup>18</sup> Daniels et al. (1996), *Benchmarks of Fairness for Health Care Reforms: Benchmark 1 of Health Equity*.

can provide (concerning types of health facility, availability of health practitioners, equipment and technology) and so on. Besides the attempts to lessen financial barriers with the adoption of the UC, focuses of the reform should also be on the attempts to eliminate non-financial barriers in the health system, especially to the poor citizens residing in the poor remote areas.

*Figure 4: Means of Medical Expenses by Patients in the Poorest Quintile (Q1)*



*Source: Author, computed from the database of the Socio-Economic Survey (SES2002), NSO.*

From the BIA, we suggest two obstacles keeping poor patients from accessing health cares at high level facilities, such as provincial hospitals, should be given attention. One is financial expense (barriers) in relation to types and levels of health facility. We can see from the SES2002 that for the poorest patients (in Q1), the mean cost of medical expenses for each outpatient and inpatient visit at provincial hospitals is found to be much higher than that at community hospitals (in figure 4). Focusing on vulnerable patient groups who might pay less for health care than the richer groups in general, it is suggested that equitable assistance should be provided more specifically to them especially when utilizing advanced treatments and costly health care at provincial hospitals.

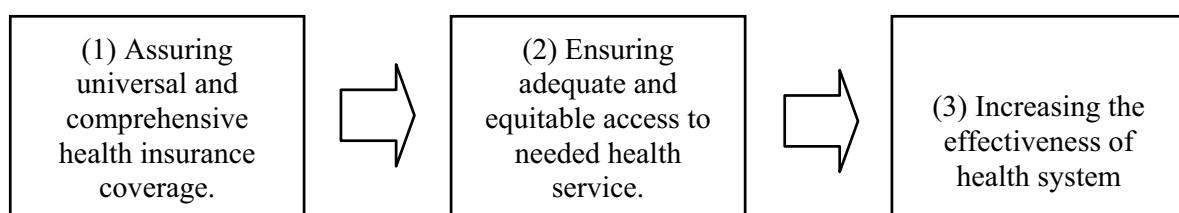
The other matter is the provision and allocation of health resources, specifically health facilities, staff, practitioners and provision of health care with sophisticated

treatments – across a region and between regions of Thailand. Structural inequities in health resource distributions exist in Thailand's health system (Pannarunothai 2000) and are critical non-financial barriers to poor patients in remote areas. At the provincial level, for example, provincial hospitals with advanced equipment, skilful practitioners and modern technology for a wide range of sophisticated treatments are generally situated in the cities where they are far more costly to access by mostly low-income people in the rural areas than by generally middle and higher income people in, or near to, the city.

At the inter-regional level, as presented in table 7, unbalanced health resource allocations are evident. The ratio of population to doctor and population to bed indicate that health resources are bunched in Bangkok and in the central area, while sparse in the Northeast, where most of the poorest live.<sup>19</sup> In the Northeast there are 7,251 people per doctor, while in Bangkok there are 952 people per doctor. Even 279 health facilities out of the total of 816 are situated in this region, 259 of them are community hospitals and only 20 are provincial hospitals; in contrast to the central area, where 173 out of 208 are community hospitals while 35 are provincial hospitals.

Accessibility to health care by the citizens is considered as a pivotal goal of the health system in equity missions.<sup>20</sup> From the experiences of health system reform in developed countries (Docteur et al. 2003), three steps in improving access to health care and health outcomes are emphasised.

*Figure 5: Improving Health Care Accessibility and Health Outcomes*



Source: Docteur et al. 2003.

<sup>19</sup> According to SES2002, half of the 20 percent of the poorest population (Q1) resides in the Northeast.

<sup>20</sup> Equity missions of the health system are to remove the barriers to good health care, prevent illness and improve the quality of life of people who are already sick, especially among vulnerable populations in marginalized groups. Evans et al. 2001.

Table 7: Health Facilities, Number of Beds and Doctors by Regions, 2002<sup>\*</sup>

Regions	Beds: Doc	Pop: Doc	Pop: Bed	Number of Facilities and Beds (MOPH)		Community Hospital No.	Community Hospital Beds	Total No.	Total Beds
				No.	Beds				
Nationwide	8:1	3,569:1	465:1	94	41,003	722	31,001	816	72,004
Bangkok	4:1	952:1	213:1	na	na	na	na	na	na
Central	9:1	3,566:1	391:1	35	14,593	173	7,829	208	22,422
Northeast	10:1	7,251:1	759:1	20	10,181	259	11,538	279	21,719
North	9:1	4,499:1	496:1	20	9,114	162	6,961	182	16,075
South	10:1	4,984:1	496:1	19	7,115	128	4,673	147	11,788

Notes: \* Only the facilities under the supervision of MOPH. \*\* Defined including general hospitals and center hospitals.

Source: Report of Health Resources, 2002, Bureau of Policy and Strategy, MOPH.

The evidence indicates that coverage only (step 1) is not sufficient to guarantee equity in all aspects of health service access (step 2). Factors underlying access problems are shortages and misallocations of health facilities and practitioners, timely availability of services, socio-cultural barriers and other non-financial barriers. At the moment, Thailand's health system is in the early stage of achieving universal coverage and ensuring its citizens access to health care. The next missions, hence, are to make sure that access to care across population groups is adequate and equitable, with better provision, as well as allocation, of health resources.

In addition to equitable access, overlaps among financing schemes of Thai UC in terms of benefits provided and related regulations, and requirement of the co-payment to the 30 Baht Scheme might also be proposed a revision.

The CSMBS, with the overlying benefits as well as the government subsidy per head, of which nearly 50 percent of the covered people lives in the highest socio-economic quintile (Q5), is judged superior to the others, which are the SSS and the 30 Baht Scheme. As denoted in section 2, the CSMBS is wholly financed via the government subsidy with per capita expenditure estimates as high as 3,800 Baht in 2002, much higher than that of the SSS and the 30 Baht Scheme which were 1,532 Baht and 1,202.4 Baht, respectively (Na Ranong et al. 2002). To realign the overlaps seems difficult and complicated because of various factors; such as the characteristics and establishment history of each scheme those are quite different.

Under the 30 Baht Scheme, which does not require prepaid contributions as in the social health insurance scheme (the SSS), a fixed 30 Baht is required to co-pay at each episode of care utilisation. The fixed amount is aimed to ensure equality and non-discrimination among the patients. It is not equitable respecting the financial resource status of patients across the income or socio-economic groups, and suggested to be revised, especially for health care provided at high-level facilities. At provincial hospitals, for example, the average cost of health care is relatively more costly compared to care at community hospitals. Under the financing regime of the 30 Baht Scheme, it consequently implies larger subsidies from the government are needed to subsidise costs of the same care provided at provincial hospitals.

As known, due to the structural inequalities between the urban and rural areas, the better off seem in a better position to access health care provided by provincial hospitals. Thus, co-payments as a percentage of health care costs at each episode might be a more appropriate option than a fixed one, with some exemptions or assistance for the worse-off patients from vulnerable groups. Hopefully, this

would help make cross-subsidization among patients possible, especially when the hospitals are financed<sup>21</sup> (or under-financed) with limited budgets.

## 6 Summary and Conclusions

This study adopts the Benefit Incidence Analysis (BIA) by socio-economic deciles in Thailand's health system, with Universal Coverage (UC), in 2002. Here, the Benefit Incidence (BI) is defined as parts of medical costs that are not purchased by the patients themselves out-of-pocket but implicitly assisted with the government subsidies via a pooling financing regime. Health centers, community hospitals and provincial hospitals are looked at in the analyses for outpatient (OP) care, while only the latter two for inpatient (IP) cares.

By socio-economic deciles ranked by the patients who utilize health care at a specific type of health facility (category 2), the distributions of BI are found proportionately pro-poor at all facility types for both outpatient (OP) and inpatient (IP) care. This implies, at all types of facility, patients in the low deciles are more attentively assisted than patients in the high deciles. When the deciles ranked within the whole population (no matter if they utilise health care or not – category 1) are considered, however, unfairness in BI distribution by the gradations of health facility type is discovered. Facilities with better capacities for sophisticated care and treatments – provincial hospitals – seem better at benefitting rich patients in the high deciles, while ones with a limited range of treatments provided - health centers and community hospitals – seem better at benefitting poor patients in the low deciles, in contrast. This phenomenon reflects inequitable accessibilities to advanced and high cost health care, especially for patients of low socio-economic status, and is discussed relating to financial expenses (or barriers) in relation to types and levels of health facility and the provision, as well as allocation, of health resources across a region and between regions in Thailand.

UC is considered as a significant way to achieve universal inclusion of the whole population, but not sufficient to ensure equitable *universal access* of necessary health care. To bring more fairness in health care access and distribution of

<sup>21</sup> As denoted, majority of health facilities (more than 90 percent) contracted to the 30 Baht Scheme is in public sector. The financing to them after the adoption of the 30 Baht Schemes are mainly from two sources, (1) the UC budget of the 30 Baht Scheme allocated with the capitation basis and (2) reimbursed medical fees from patients of the CSMBS and SSS, with small portion of the co-payments from patients of the 30 Baht Scheme.

Benefit Incidence, not only financial factors, but also non-financial factors need to be taken into account.

## Appendix

### (A) Sources of Data

#### ***The 2002 Household Socio-Economic Survey (SES2002)***

Conducted by the National Statistical Office (NSO), the SES collects the information on household income, expenditure, debt, housing characteristics, as well as the ownership of selected durable goods and changes in assets and liabilities of the household. The survey was at first time conducted in 1957 and later on for every five years, which then was changed to every two years in 1987. SES2002 is the latest available at the time with a special record of questionnaire inserted on 'morbidity and medical care of household member' (record 10), which is the record we mainly use the data from for the BIA. Household's expenditure on medical services and medical supplies is recorded in the 'consumption on goods and services' (record 6), the coverage of health insurance is in the 'household member characteristics, getting welfare and benefits' (record 2), and monthly per capita consumption expenditure is in 'household's economic status' (record 1).

#### ***Financial and Activities 0110 Report 5***

This is the financial report on income, expenditure and activities in health service provisions of health facilities contracted to the UC, which is submitted monthly to the Department of Health Service Support (DHSS), Ministry of Public Health (MOPH). Its purposes are for uses in evaluating and monitoring the performances of health service providers, and as well implications as for health policy decisions. This paper uses the data of 2000, 2002 and 2003 – which has been adjusted from monthly to annually set with kind assistance from DHSS – in the calculation of health care unit costs.

## (B) The Calculation of Health Care Unit Costs

With the use of Financial and Activity 0110 Report 5 of public hospitals<sup>22</sup> and quick method of unit cost calculation (Tisyaticom et al. 2001), the summary of unit costs calculated in this study (a), together with the reference from the International Health Policy Programs (IHPP) (b), during 2000 to 2003 is presented in table 8.

*Table 8: The Calculation of Unit Cost (per Visit) by Type of Facility (Unit: Baht)*

Year	2000**	2001**	2002*	2003*
<b>Outpatient (OP) cares</b>				
Health Centers	60.00	62	-	-
Private Clinics	221	100	-	-
Community Hospitals	221	262	226.185	310.414
Provincial Hospitals	278	378	382.326	556.411
Private Hospitals	278	353	-	-
<b>Inpatient (IP) cares</b>				
Community Hospitals	2,857	3,669	3,166.575	4,345.796
Provincial Hospitals	5,424	6,812	6,881.868	10,015.385
Private Hospitals	5,424	6,350	-	-

Source: \* Author 2004, computed from the Financial and Activity 0110 Report 5, MOPH. \*\* Tangchareon-sathien et al., IHPP 2001.

Except for health center that its unit cost in 2001 is used as a proxy, the unit costs presented above in 2002 are employed in the BIA for the rest of health facility types.

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<sup>22</sup> In total, 811 hospitals are included in the calculation, out of which 719 are community hospitals and 92 are provincial hospitals.

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