

**Mobilization of Domestic Resources for Essential Drugs  
in Developing Countries: Case Study from Thailand  
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**Abstract:-**

Thailand is a developing country which is moving very fast into globalisation and international trade. In 1998 its value of exports amounted to 54 per cent of its GDP. This highly export oriented economy makes Thailand very vulnerable to foreign pressures and external economic dynamics. Pressures from the USTR since 1986 forced the country to open its Tobacco market and accept product patent in 1992. Pipeline pharmaceutical products also enjoyed market exclusivity under a technical Safety Monitoring Program (SMP). This situation enhances the increasing drug price and reducing the accessibility to essential drugs. The economic boom since early 90s and the pipeline products protection increase drug expenditure greatly as well as increase proportion of imported products. Many sources of finance for essential drugs have been successfully employed in Thailand. They are user fees, tax revenue, and community financing. Internal management to increase availability of essential drugs, e.g., reallocation of budget, measures to achieve lower drug price and more rational use of drugs are also employed. Economic crisis in 1997, although brought with it the financial stress on public health budget, but also allowed for major management reform including drug management. Several strategies include reduction of hospital drug items, collective procurement, health care financing reform, and reformulation of public budget were developed and implemented under a comprehensive “good health at low cost” policy. More managerial reforms are needed to cope with the more intensive and longterm monopolistic effect of the product patent. It is suggested that a global public drug fund from certain percentage of global drug sales should be established to support rational use of drugs and R&D on public essential drugs.

**Key words :** drug financing, essential drugs, product patent, economic crisis, TRIPS.

**1. Introduction**

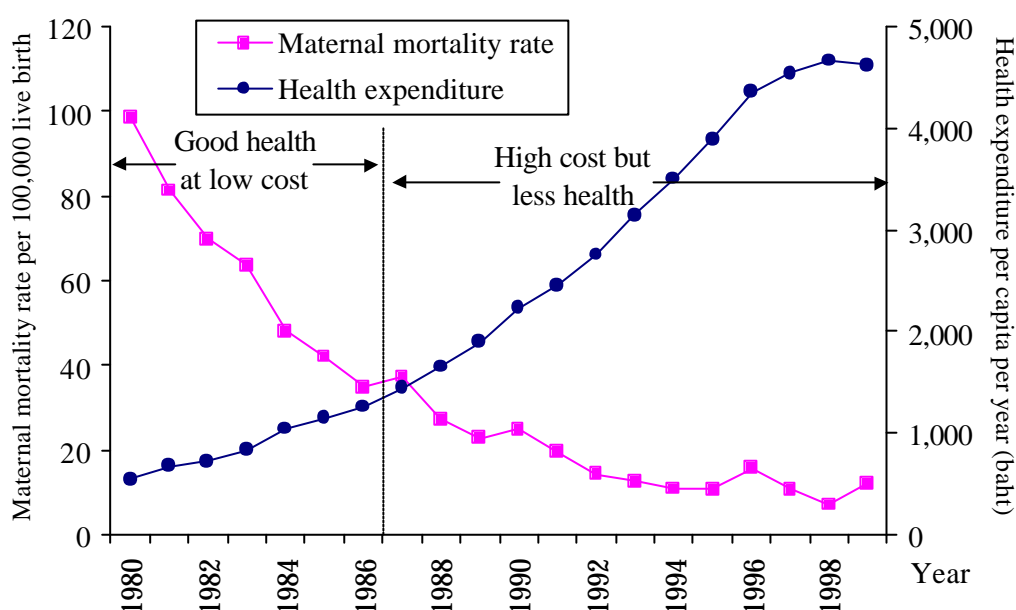
Thailand is a lower middle income country in Southeast Asia with a population of 62.9 million in 2001. It consists of 75 provinces, 795 districts, 81 subdistricts, 7,255 Tambons (communes), and 68,881 villages. The health care delivery system is pluralistic and composed of both public and private facilities (Table 1). The public facilities have approximately 60%, 75%, and 80% share of hospitals, beds, and doctors, respectively <sup>(1)</sup>. Approximately 80% of all public health resources belonged to the Ministry of Public Health (MoPH) with its extensive network of provincial general hospitals, district hospitals, and commune health centres. In 2000, there were 92 general hospitals, 24 district hospitals and 9,704 commune health centres <sup>(1)</sup>. Administratively, all public hospitals and health centres, under the MoPH, in each province report to the Provincial Chief Medical Officer (PCMO). The health status of the Thais improved greatly in the past three decades (Figure 1, 2). However, the health and drug expenditures are increasing at very fast pace, particularly in the last decade (Figure 2, 3) <sup>(1)</sup>.

**Table 1** Health care infrastructures : Pleuralistic

	Bangkok	Provinces	Districts	Tambons	Village
Medical schools	6	5	-	-	-
Specialized Hospitals	24	22	-	-	-
General Hospitals					
Public	29	92	724	-	-
Private	131	342	-	-	-
Private clinics	3,143	9,063	-	-	-
Health centres	85	-	132	9,704	-
PHC centres	-	-	-	-	63,443
1 <sup>st</sup> Drug stores	2,553	2,797	-	-	-
2 <sup>nd</sup> Drug stores	724	4,409	-	-	-
Groceries (sell drugs)	-	-	-	-	400,000

Source: Thailand Health Profile 1999-2000 <sup>(1)</sup>.

**Figure 1** Good Health at Low Cost” and “High Cost but Less Health”



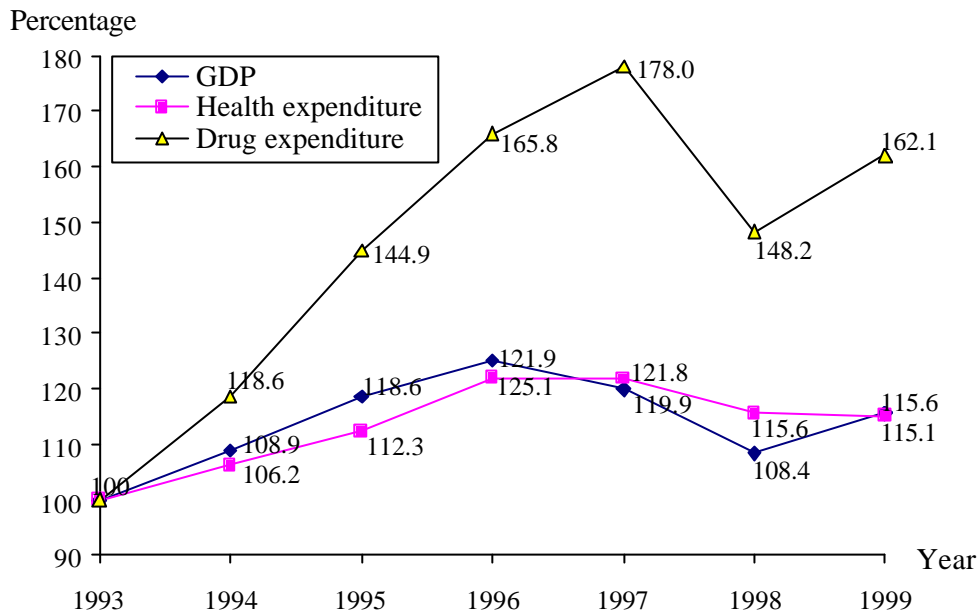
Source: Thailand Health Profile 1999-2000 <sup>(1)</sup>.

Drug expenditure in 1993 was \$US 1,080 million (wholesale) or \$US 18 /capita (wholesale) or \$US 34 /capita <sup>a</sup> (retail value) and constituted roughly 35% of total health expenditure<sup>(2)</sup>. The 1999 estimate was US\$1,200 million<sup>b</sup> or 19.5 \$US/capita (wholesale), and constitute 32% of the health expense. Drug expense in the last 7 years is increasing at a rate higher than health expense and economic growth<sup>(1)</sup> (Figure 2). Drugs are distributed through all public/private facilities including more than 10,000 private pharmacies and 400,000 village groceries (Figure 3) <sup>(3, 4)</sup>. About two-third of the health expense come from out of pocket payment (Figure 4).

<sup>a</sup> Calculate at 25 Baht = 1\$US

<sup>b</sup> Calculate at 40 Baht = 1\$US

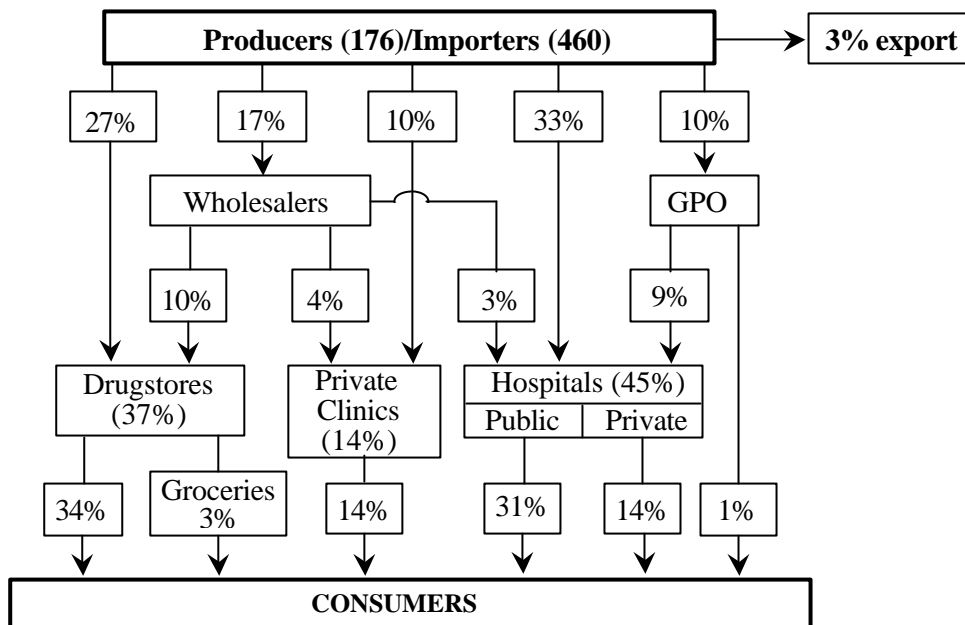
**Figure 2** Growth of Real-Term Expenditures on Drugs and Health and Gross Domestic Product, 1993-1999 (1993=100).



Source: Thailand Health Profile 1999-2000 <sup>(1)</sup>.

Note: values of the three expenditure were arbitrarily set at 100 in 1993 to show their relative pace of increase

**Figure 3** 1998 Drug consumptions/distribution



GPO = Government Pharmaceutical Organization

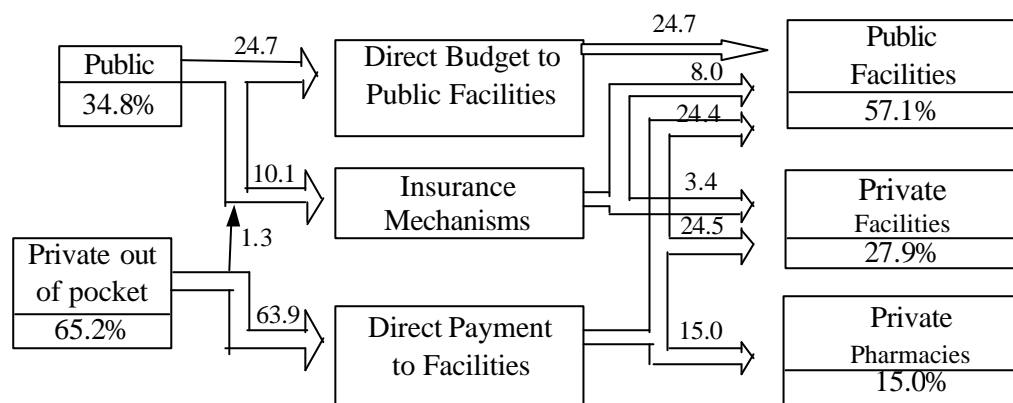
Source: Na Songkhla M, Wibulpolprasert S, Prakongsai P, 1999.

**Figure 4** Flow of health expense

Sources

Management  
Mechanism

Fund Recipient



N.B. Many of those who are insured still go to the private pharmacies, private clinics, hospitals, and pay out of pocket or by employers.

Source: Wibulpolprasert S, et. al., 2000.

Health insurance coverage among the Thais is increasing from 32.9 per cent in 1991 to 80.3 per cent in 1998 (Table 2). The expense, service utilization and payment mechanisms of each insurance scheme are presented in Table 2.

However, self medication through private pharmacies is still a major choice of treatment (Figure 5). Regarding health facilities, the Thais use both public and private facilities in accordance with their income and health insurance (Figure 6)<sup>(4)</sup>.

**Table 2** Percentage of Health Insurance Coverage by Scheme, 1991-2000.

Health insurance scheme	Coverage, percent						
	1991	1992	1995	1997	1998	1999	2000
1. Medical care for the poor and the socially supported (underprivileged) groups	16.6	35.9	43.9	44.7	45.1	42.1	40.8
- The poor	16.3	20.7	15.5	13.4	13.5	10.5	10.6
- The elderly	-	6.2	4.6	4.9	5.5	6.4	6.4
- Children aged 0-5	-	-	7.1	7.3	7.3	20.1	17.2
- Primary and secondary schoolchildren	-	9.0	8.9	11.1	11.1		
- War veterans	0.3	-	0.4	0.3	0.3	0.2	0.3
- Community leaders and schoolchildren	-	-	5.0	5.4	5.4	4.4	5.8
- The disabled	-	-	1.8	1.8	1.5	0.3	0.3
- Buddhist monks and novices	-	-	0.6	0.5	0.5	0.2	0.2
2. Medical services for civil servants and state enterprise employees	10.2	11.3	11.0	10.8	10.8	10.8	12.0
- Civil servants and family members	8.7	9.9	9.6	9.4	9.4	9.4	-
- State enterprise employees and family members	1.5	1.4	1.4	1.4	1.4	1.4	-
3. Compulsory health insurance	3.2	4.4	7.3	7.6	8.5	9.2	9.4
- Social security fund	-	4.4	7.3	7.6	8.5	9.2	9.4
- Workmen's compensation fund	3.2	-	-	-	-	-	-
4. Voluntary health insurance	2.9	3.9	9.8	15.3	15.9	15.8	17.5
- MoPH health insurance	1.7	2.3	7.8	13.3	13.9	13.8	14.2
- Private health insurance	1.2	1.6	2.0	2.0	2.0	2.0	3.3
Total : people with health insurance	32.9	55.5	72.0	78.4	80.3	77.9	79.7
Total : people without health insurance	67.1	45.5	28.0	21.6	19.7	22.1	20.3

Source: 1. For 1991, a survey conducted by the National Statistical Office, 1991.

2. For 1992, Viroj Tangcharoensathien and Annuwat Supachutikul, 1993.
3. For 1995, 1997 and 1998, Health Insurance Office, MoPH.
4. For 2000, data for September 2000, coverage 81.58%.

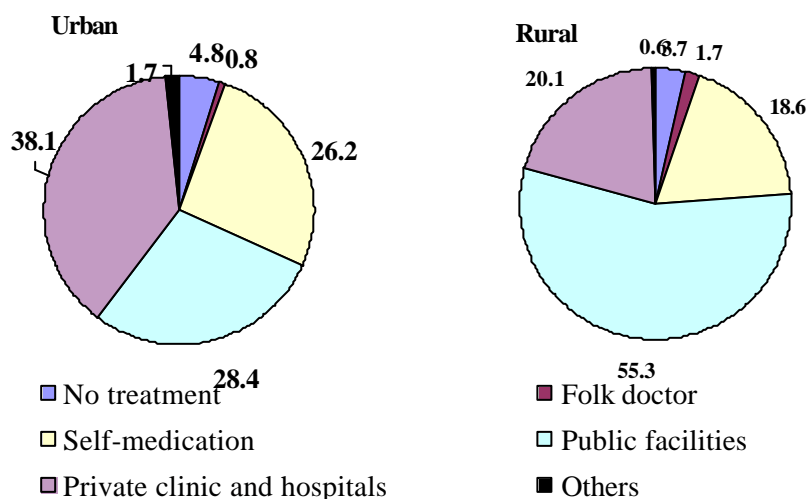
**Table 3** Health Insurance Coverage in Thailand, 1998.

Scheme	Coverage		Expenditure (Baht)			Premium (source of funds)	Payment Mechanism	Health service utilization	Drug user
	Pop. (million)	Percent	Billion	% NHE	Per cap. (\$US)				
Social welfare	27.5	45.1	18.3	6.5	667 <sup>(2)</sup> (17)	Tax	Global budget	Assigned public+referral	ED <sup>(5)</sup>
CSMBS (civil servants)	6.6	10.8	16.4	5.8	2,491 (62)	Tax	Fee-for-service	Public	ED
Social security	5.2	8.5	7.6	2.7	1,468 (37)	4.5% payroll <sup>(3)</sup>	Prepaid capitation	Public & private	ED
Voluntary public health insurance (Health card)	8.5	13.9	6.4	2.3	750 <sup>(2)</sup> (19)	500?/family +Tax (1,000)	Global budget based on OP&IP	Assigned public+referral	ED
Voluntary private health insurance	1.2	2.0	3.6	1.3	3,000 (75)	Varied	Fee-for-service	Public & private	} No limit
Workmen's Comp. fund	5.2	8.5	1.6	0.6	308 (7.7)	0.2-3.0% payroll <sup>(4)</sup>	Fee-for-service	Public & private	
Car Accident	61.0	100.0	1.5	0.5	-	Private	Fee-for-service	Public & private	
<b>Total</b>	<b>49.0<sup>(1)</sup></b>	<b>80.3<sup>(1)</sup></b>	<b>55.4</b>	<b>19.7</b>	<b>1,067<sup>(1)</sup></b>	-	-	-	-

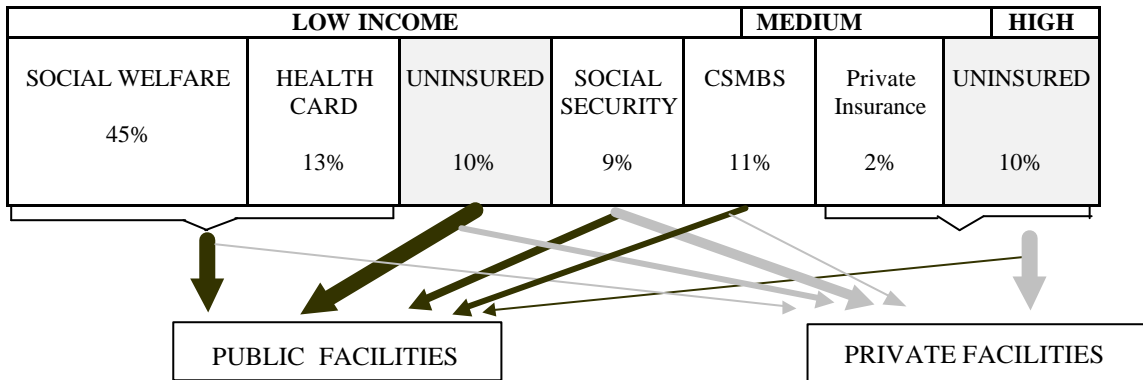
- NB. (1) Excluding Workmen's Compensation Fund and motor vehicle accident insurance.  
(2) Cross-subsidization added.  
(3) 1.5% of payroll each from employers, employees, and government.  
(4) Rate according to past history of claims.  
ED = Essential Drugs  
1 US\$ = 40 Baht

Source: Modified from Wibulpolprasert S, et al., 1998<sup>(4)</sup>.

**Figure 5** Health seeking behavior by percentage, 1999.



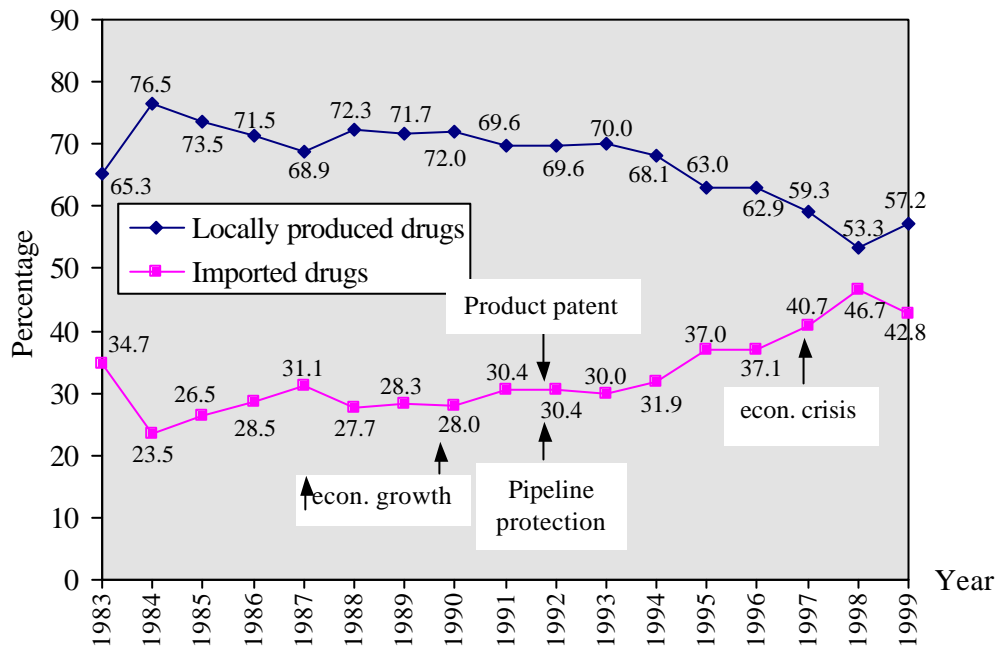
Source: National Statistical Office, 2000<sup>(5)</sup>.  
**Figure 6** Service utilization by Thais.



Source: Modified from Wibulpolprasert S, et al., 1998 <sup>(4)</sup>.

Drugs are produced locally by 176 private drug factories and a few public enterprises, the biggest one being the Government Pharmaceutical Organization (GPO). There are also 460 drug importers. Locally produced drugs have 50%-60% of the market share. During economic boom the proportion of imported drugs start to increase. This is due to both the increasing use of imported products and the pipeline protection of new drugs. After the economic crisis the proportion of imported products increase further due to devaluation of local currency, although their \$US value may decrease greatly (Figure 7).

Figure 7 Proportion of locally produced and imported drugs (for human use) 1983-1999.



Source: Thailand Health Profile 1999-2000 <sup>(1)</sup>.

Most public hospitals purchase drugs from both the GPO and private companies. Only those private drug factories with Good Manufacturing Practice (GMP) certificates from Thai FDA are allowed to sell drugs to public hospitals. Products from GMP factories are three times less substandard than those of the non-GMP factories.

The prices of drugs from GPO are fixed and quality control are carried out by the GPO itself. On the other hand, prices of drugs from private companies depends on direct bargaining without a good quality control system from the buyer's side.

Thus drugs are purchased, based on different hospital drug lists, at varying prices and quality in different hospitals. Bigger provincial hospitals usually have more transparency, more bargaining power and more access to better quality drugs. Under this system, different drugs are thus used by different health facilities in the same provinces. A system of **medium price**<sup>(6)</sup>, developed and announced by the MoPH, control the upper limit of the drug price in the public sector.

## 2. Mobilization of domestic resources for health services

There are many sources of finance for health services and essential drugs:-

### 2.1 User fees

Services in public facilities are not free of charge. Unless the patients are covered by some kind of insurance, they have to pay a subsidized level of user fees, according to their ability to pay. However, if they do not have insurance and have no (or not enough) money, they can also receive free medical care from public facilities. User fee system was started in Thailand for more than 60 years, since the early days of modern health care systems development. The money collected are retained by the hospitals and are used to maintain the facilities and purchasing drugs as well as medical supplies, under certain rules agreed upon between the MoPH and Ministry of Finance (MoF). The public hospitals thus receive financial support through government budget (tax revenues), insurance premiums, and user fees. Each hospital is authorized to use these funds to purchase drugs. On the average **about half** of the public hospital drug expense come from user fees. According to government regulations, public hospitals have to purchase 60%-80% of their drugs budget based on items in the essential drug list<sup>(7)</sup>. However, in real practice, only small hospitals and health centres comply to this rule. Bigger hospitals, cited the problems of the outdated National Essential Drug List (NEDL), spend only 30%-40% of their drug budget on ED. Most user fees come from out-of-pocket payment. With increasing health insurance coverage, the proportion of revenue from user fees as percentage of hospital operating budget declines.

At the moment, user fees contributes to around 40-60 percent of public hospital operating expense. About 25 per cent of this revenue was spent on drugs.

The main sources of user fees are:

- (1) **Civil Servant Medical Benefit Scheme** (CSMBS) (fee-for-service) contribute around 30-50 percent.
- (2) **Social Security** (capitation) contributes around 10-20 per cent.
- (3) **Health card** (capitation) contributes around 10-20 per cent
- (4) **Out of pocket** (fee-for-services) contribute around 30-50 percent

With the “30 Baht for all diseases” policy of the new government, and the reform of CSMBS it is expected that the revenue from user fees will further decline. However, this universal coverage of health insurance uses a “capitation” payment scheme. This will inevitably push the providers to use more locally produce generic essential drugs.

### 2.2 Tax revenue (Government budget)

The annual budget support from tax revenue to the public facilities used to pay mainly for salaries and capital investment. As the country economy grows and the tax base expands, the proportion of annual public budget in the operating cost rises.

Tax revenues now contribute more than 50 per cent of the operating budget and most of the capital cost.

Previously tax revenue came in the form of global budget, allocated according to the size of facilities. New mechanisms are being created to allocate the public budget using capitation as well as case management system. The budget for social welfare health services and the new “30 Baht for all disease” scheme are all paid by capitation and case management method.

### 2.3 Community financing

There are several schemes in the past, e.g., village drug funds, village nutrition fund, village sanitation fund, impregnated bed nets fund, and tooth brush and paste fund. These funds are partially subsidized from the MoPH’s budget. They contributed to the improvement of people participation during the PHC era (1980-1992). However, the funds are usually very small. Nowadays, these funds almost disappear.

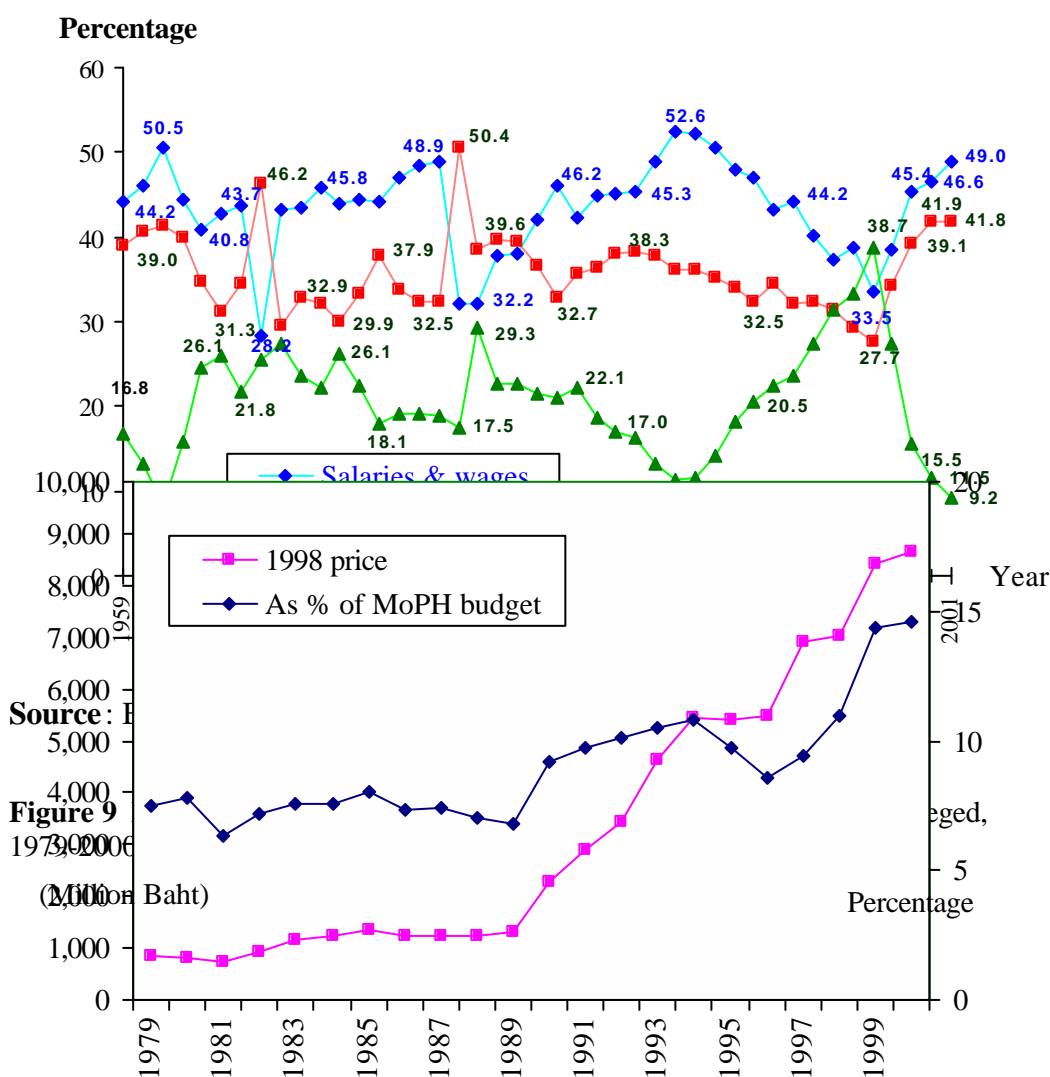
### 3. Internal management to increase the availability of ED.

Several mechanisms were established to increase the drug budget, lower drug price, particularly during the economic crisis, i.e.,

#### 3.1 Reallocation of budget

With the reduction of capital investment, which used to be 40 per cent in 1998, the operating budget of the MoPH including drugs are well maintained (Figure 8, 9).

**Figure 8** Percentage of MoPH budget by major category of expenditure, 1959-2001





### 3.2 The use of EDL

Developed since 1980 it was used extensively in the public health facilities. The initial strategy was through extensive education. Since mid 1980s, it was mandatory that the public budget have to be spent mainly on EDL.

The social security scheme started since 1990 also mandated the use of ED.

The reform of CSMBS in 1998 also mandated the use of ED.

### 3.3 Promotion of RUD

Apart from the EDL, extensive drug education, and development of standard treatment guideline, financial measures are used to achieve more rational use of drugs.

The capitation payment in several insurance mechanisms, i.e., the social security, the social welfare, the reform CSMBS, and the new “30 Baht for all diseases” scheme, provide strong financial incentives toward use of ED.

### 3.4 Collective procurement systems

Under the ‘good health at low cost’ policy, hospitals in each province (district and general hospitals) have to collectively purchase the first 100 items of most commonly used drugs or 50 per cent of their drug budget (Previously each hospital purchase its own drugs independently). This collective bargaining system was able to reduce drug price by 27.75 per cent and 335.7 million Baht was saved in 1999<sup>(8)</sup>. However, only about 15% of the total MoPH’s drug budget are within this system. The rest were used to purchase drugs directly from GPO and private distributors. The quality of drugs was also improved. This system, developed since 1990, was not really extensively implemented until after the economic crisis<sup>(3)</sup>.

The price of ED that was purchased by each hospital also appeared in the internet. The web page address is <http://phd.moph.go.th/pharmacy/>. These information increase the transparencies of drug procurement.

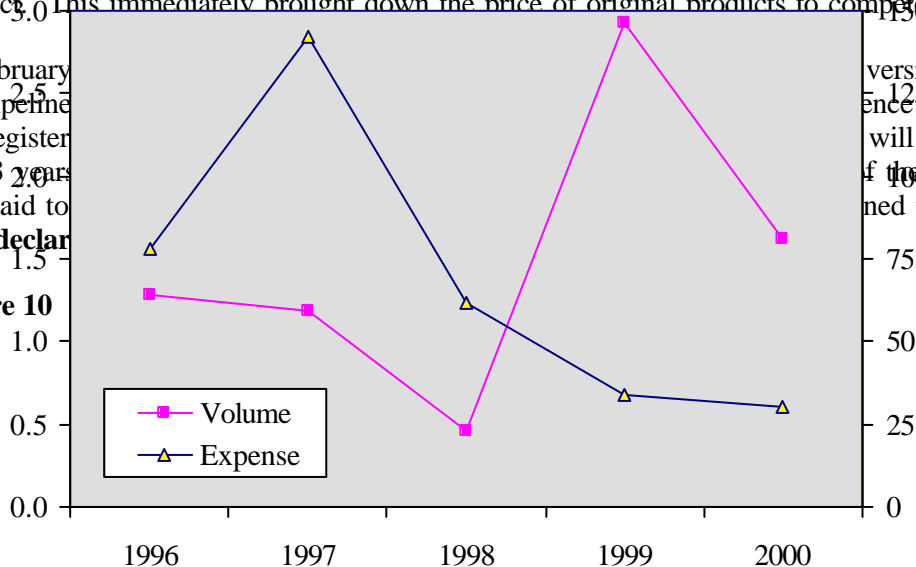
### 3.5 Accelerating the release of new drugs from SMP.

From 1992 to 1997, 397 new drugs under SMP was registered. However in November 1997 only 5 drugs were released from SMP. There was thus little chances for generic products. The then FDA Secretary General (who also developed the collective provincial procurement systems in 1989) developed an acceleration program to release SMP products. Within 4 months, 152 drugs were released including Fluconazole, Olfloxacin, Ondansetron, DDI, and Simvastatin.

This resulted in the availability of lower price generic of Fluconazole (Figure 10). However only 3 generics of the SMP released pipeline products are available after 3 year. The generic DDI was also available inspite of the patent on new formulation of DDI. The GPO produced the power form of DDI at less than half of the price of original product. This immediately brought down the price of original products to compete with GPO.

In February the pipeline and register in 2-3 years was said to only declar

Figure 10

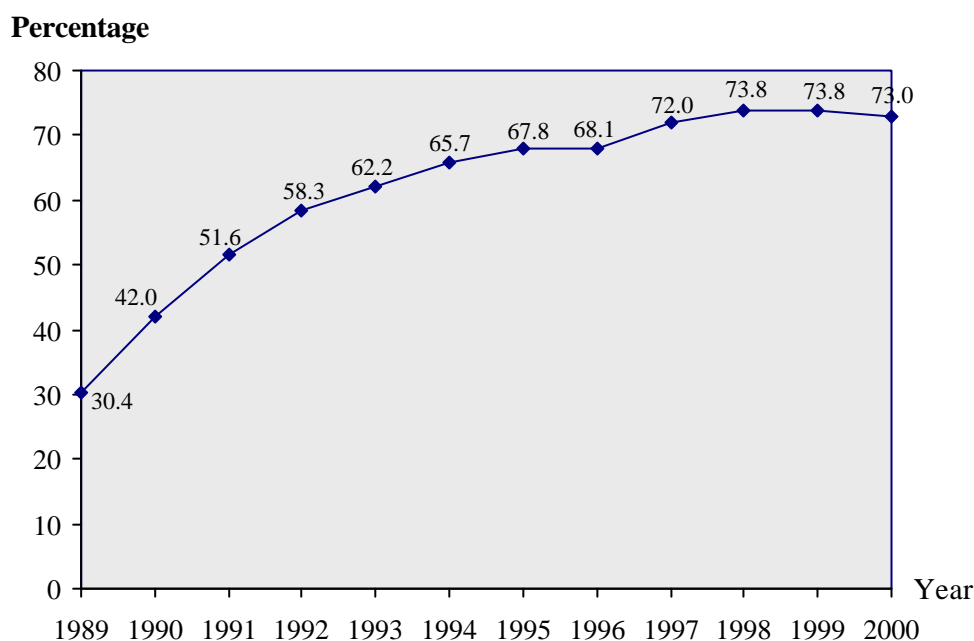


**Source:** Food and Drug Organization, MoPH.

### 3.6 Improve quality of generics

This is achieved by the collective provincial procurement system as well as increase coverage of GMP factories. The coverage of GMP drug factories increase from 30.4% in 1989 to 73.8% in 1998 (Figure 11). This achievements were accomplished through technical (education and training), public relation, public education, and economic measures. There is no legal binding for GMP. An amendment to the current Drug Act to make GMP a compulsory requirement for all drug factories is being considered in the Parliament.

**Figure 11** Percent of GMP-drug factories 1989-2000.



**Source:** Food and Drug Administration, MoPH.

### 3.7 Health Care Financing Reform

There were several progresses in the health care financing system. The movements were toward more collective tax base system and from fee-for-services to capitation and global budget system (Table 2). For example, since its start in 1990, the social security health insurance scheme which covers all employ workers in private establishment of 10 or more employees, pays the hospital by capitation system.

#### The way forward

Although international trade and economic crisis posed several threats to the availability of ED, it also provide pressures to improve drug management system. Higher price antimicrobials will also limit their use and reduce chance, of multiple drug resistance.

Some future collective actions may be considered:-

#### 1. Alleviation of negative effects from TRIPS

##### 1.1 Extension of grace period

The proposal of another 5 years extension of the grace period under the TRIPs which was proposed by many developing countries are well supported by the Thai government.

##### 1.2 Exemption of WHO list of ED from the TRIPs agreement.

This was proposed by many developing countries to the WTO ministerial meeting which is going to take place from 30 November-4 December 1999 in Seattle, USA. The Thai government strongly supports this proposal. However, the guidelines for inclusion of drugs in the WHO EDL need to be modified to include not only cheap drugs.

### **1.3 Support enforcement of compulsory licensing**

For expensive patented new essential drugs compulsory licensing should be encouraged to be enforced. The case of DDI, in Thailand for example, can be used as a case study. Guidelines or handbook for enforcing compulsory licensing and/or parallel import should be published and disseminated. Training programs on using these handbooks for developing countries national drug authorities and NGOs should be developed and carried out. Information exchange of the situation in each country through electronic mail is essential to strengthen the move.

### **1.4 Differential pricing or equity pricing**

This should be negotiated without the weakening of the parallel import.

### **1.5 Global bulk purchasing**

## **2. Guideline for developing countries to cope with international trade.**

International civil society and health organization should develop guidelines to help developing countries to cope with the negative effects of international trade on the availability of essential drugs. Topics may include the mechanisms to make the generics available immediately after patent expiration (as in the case of USA), and how to reform health care financing schemes to achieve more rational use of drugs.

## **3. Health promotion Advocacy.**

If we are healthy we need no drugs. So health promotion and diseases prevention should be more advocated. In the case of HIV/AIDs, for example, instead of waiting for the biomedical vaccines, strong advocacy should be focused at three available and effective **social vaccines**, i.e., targeted intensive health education, 100% condom coverage for risky sexual relation, and building up life skill among school children.

## **4. Creation of a Global Public Drug Fund.**

A global public fund can be created to support activities toward more rational use of drugs, compensation for those who develop adverse drug reactions, and support R&D on public drugs.

The main source of fund, apart from donation, can come from the sale of drugs. In Japan 1% of drug sales go to public drug fund <sup>(14)</sup>.

The total global drug sale was around US\$300,000 million in 1998. One per cent means USD 3,000 million, 7 times the amount of regular WHO budget, and 30 times the usual R&D budget for one new drugs.

International civil society may work closely with international health organization, e.g., WHO, UNICEF and UNAIDS, to initiate a global campaign to support this proposal. This proposal is more or less like the Health Promotion Fund from earmarked tobacco and alcohol excise tax.

## **5. More reform of the Health Care Financing (HCF) system.**

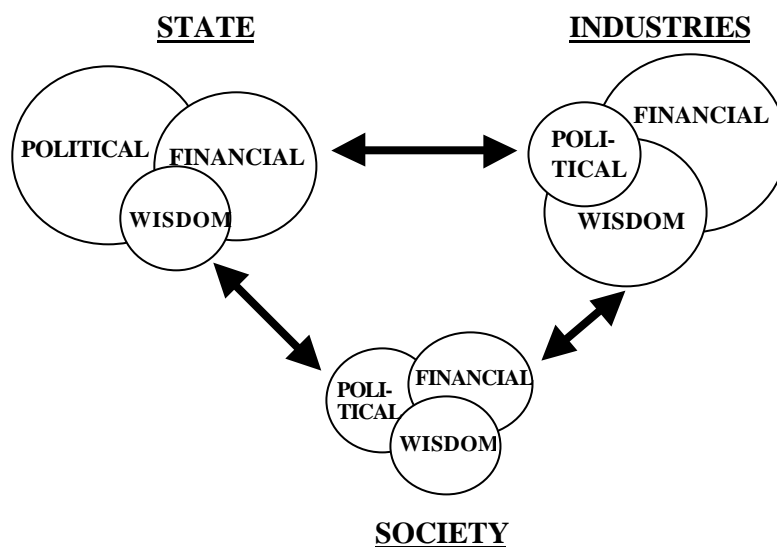
HCF system should be shifted from out of pocket payment to more collective payment system. It should also be moved from fee for services payment system to capitation, case payment and global budget. However mechanisms to ensure quality of services have to be developed.

In regarding to prescription and dispensing, the current system in many developing countries that the doctors and hospitals prescribe and dispense drugs while the

pharmacies also dispense and prescribe should be reformed. This current systems give financial incentive to prescribe and dispense more drugs. Separate payments on drugs by all third party payers should be a tool to separate these two functions.

**6. Social empowerment.** The problem of availability of ED as affected by globalization is an example of social inequity. Social inequity and social unrest occur more in the society with weak civil society (Figure 12). The stronger the civil society the more equitable it is. Social empowerment will take balance with the political and financial power from the state and the private sector.

**Figure 12** Imbalance of Power



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