"Lessons from the introduction of universal access to subsidised health care in Thailand" by Adrian Towse (Office of Health Economics, London), Anne Mills (LSHTM, London), Viroj Tangcharoensathien (IHPP-Thailand, Bangkok).

1. Introduction

Thailand has taken a "big bang" approach to introducing universal access to subsidised health care in 2001 after years of slow progress towards increased population coverage. There are merits to such an approach but also risks. The introduction of this policy has been combined with a shift in the funding formula from two existing schemes (pooled and expanded to create the universal coverage scheme) to redistribute resources away from major urban public hospitals to community hospitals and health centres in order to build up primary care. This paper discusses a number of the key issues in the design and implementation of the policy:

- Difficulties in extending coverage within a patchwork of existing insurance schemes
- Whether there is enough additional funding, and if not how the system might ration care?
- Defining the package of treatments that are covered by the scheme;
- The impact of the move to population based capitation funding on hospitals and on patients who are not able to choose their provider;
- Who will do the purchasing and whether an active purchasing function is required?
- Is there a need for separate funding of teaching and research activities.
- How should private sector providers be treated?

It concludes with some recommendations for improving the proposed scheme and possible lessons for other countries considering introducing universal coverage.

2. Health care coverage arrangements in Thailand prior to the 2001 reforms

Thailand has a population of 62 million divided into 76 provinces with less than one third of the population living in urban areas. Health care coverage for the population has gradually increased from 1/3 in 1991 to 50% in 1993 and 2/3 in 1997, and an estimated 70% prior to the introduction of the 2001 universal health care (UC) policy (Nitayarumphong and Pannarunothai, 1998).

Using Thai NHA studies, Table 1 sets out data on Thailand health expenditure patterns.

Table 1 Health care expenditure profiles, 1990-98, Thailand[1].

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Health Expenditure (THE), % GDP	5.7%	5.5%	5.6%	5.8%	5.7%	5.6%	3.7%	3.7%	3.9%
Out of pocket, % THE	77.8%	75.2%	73.9%	71.3%	68.7%	68.4%	41.1%	37.1%	33.2%
Out of pocket, %GDP	4.5%	4.2%	4.1%	4.1%	3.9%	3.8%	1.5%	1.4%	1.3%
GDP per capita (PPP)	3,787	4,240	4,636	5,054	5,476	6,160	6,577	5,939	5,083
Total health exp. per capita (PPP)	217	235	259	293	312	344	246	220	196
General Govt Tax Funded HE / THE	21.0%	23.0%	23.4%	26.1%	28.3%	28.7%	48.4%	52.1%	55.6%
Social Security Funded HE / THE	0.0%	0.6%	1.3%	1.3%	1.8%	1.7%	4.4%	4.8%	5.1%
Private Expenditure on Health / THE	78.9%	76.3%	75.0%	72.5%	69.8%	69.5%	47.2%	43.1%	39.2%

Reference: WHO 2002 World Health Report.

[1] Prior to 1995, data on health expenditure was from the National Economic and Social Development Board (NESDB). From 1996, the figures are from the National Income Accounts based on UN Systems of National Account methodology.

The main point to note is the size of out of pocket expenditure which is around one third of health care expenditure, albeit on a decreasing trend from quarter three in 1990.

As set out in Table 2 below, in 1998, 18.5% of total households were spending more than 10% of their non-food expenditure on health. This affected mostly uninsured households.

Table 2 Burden of health expenditure

% non food expenditure on health	% households
0 to 0.5%	0.01
0.5 to 10%	81.6
10 to 25%	15.5
25 to 50%	2.6
More than 50%	0.4
Total	100

Source: Tangcharoensathien and Pitayarangsarit 2001

2.1 The main schemes prior to the reforms

These are as follows (Nitayarumphong and Pannarunothai, 1998). Schemes (d) and (e) have been ended as part of the reform process:

(a) Civil Servants Medical Benefit Scheme (CSMBS), which covers civil servants and their dependents (including parents, spouse and up to three children under twenty years), covers approximately 5 million people or 8% of the population. The CSMBS provides comprehensive cover. It is funded out of general taxation by the Ministry of Finance. There are substantial co-payments (50%) for inpatient treatments in private hospitals, and in public hospitals there are co-payments for drugs outside the national essential drug list as well as for use of a private room and board beyond 13 days. These co-payments were introduced during the economic crisis of 1997. The CSMBS thus uses public facilities for ambulatory care and, for in-patient treatment, mainly public hospitals (private hospitals can only be accessed at the pre-reform level of co-payment, for life threatening accidents and emergencies), with a free choice of provider within these constraints. All public and private providers are reimbursed on a retrospective fee for service. The Cabinet resolved in 1998 to adopt the reforms proposed by the Health Services Research Institute (Pitayarangsarit S, Tangcharoensathien V and Aniwan S. 2000)) for the CSMBS. This involved moving towards a contract model, with capitation for ambulatory care, and a global budget with Diagnostic Related Group based prospective payments for inpatient services. However these reforms have not to date been implemented.

(b) **Social Security Scheme** (SSS) was introduced in 1990 and provides compulsory social security for private sector above 10 employees (covering about 7% of the population or 4.5m people. From April 2001 it has been available to more than 1 employee establishments). It does not cover dependants except for maternity benefit including cash for maternity leave (Mills et al, 2000). The scheme limits choice to contracted public or private hospitals on a prospective capitation basis. Initially employers chose the provider network for their employees (1991-94), currently, employees have own choice of provider network, but on a reactive nature, namely, they can change provider network upon request (with a default provider chosen by the employer if they make no request for change). There is no annual re-registration to a contracted provider network for all employees. The SSS is funded by tripartite payroll contributions by employee, employer and Ministry of Labour, each contributing 1.5% of payroll. There are no co-payments except for maternity and emergency services beyond the fee schedule. It covers non-work related illness, except for 15 conditions/treatments which are regarded as cosmetic or unnecessary.

(c) **Workmen's Compensation Scheme** (WCS) is a work related compulsory insurance scheme which complements the SSS. It allows use of public and private hospitals of choice,

but with co-payments above the ceiling of 30,000 Baht (£440) of health expenditure. This is an employer liability scheme, whereby the employer pays premiums based on the risk of the business, adjusted by an annual experiences rate. (The annual experience rate is a ratio of total claims for medical expenditure, invalidity and death compensation to total contribution. If it is beyond a certain benchmark the employer is required to increase the basic rate of contribution in subsequent years, and, if lower than the benchmark level, the employer is rewarded with a reduction in basic rate). There is a free choice of provider who is reimbursed on a fee-for-service basis.

(d) **Medical Welfare or low income card scheme** (LICS) was given free to those who were entitled. These were families with a household income lower than 2800 Baht (£41) per month and individuals with income lower than 2000 Baht (£30) per month. These figures were set in 1991 and have not been increased since, reducing low income coverage, although the figure is much higher than the absolute poverty line using a food and non-food basket assessment, as set out in Table 3. Thus the absolute poverty line in 1992 was 600 Baht per capita per month. Multiplied by the average household size of 3.5, the absolute poverty line would be 2100 Baht (£30) per household per month which is below the benchmark for eligibility of a Low Income Card There is thus no negative impact from the cut-off per se, but, conversely, comprehensive coverage of the poor was not achieved. Khongswat S et al 2000 in a national survey of 2000 poor families found that only 17% were in the LICS, and, in a survey of 1000 LICS members, found that only 35% were poor. The LICS also covers elderly people (over 60 years old) and children under 12, community and religious leaders and people with disabilities. Estimates of population coverage was 32% (say 20m people).

Table 3 Poverty line and number of population under absolute poverty line

Poverty line	1992	1994	1996	1998	1999	2000
Monthly per capita income	600	636	737	878	886	882
Percent population under poverty line	23.17	16.32	11.4	13	15.93	14.22

Source: National Economic and Social Development Board 2002. Poverty and income distribution in Thailand. Bangkok: Office of the Prime Minister.

Low income and public welfare patients were eligible to use public hospitals only (i.e. those of the Ministry of Public Health (MOPH) and some other ministries). The payment mechanism was via a global budget allocated to the provinces according to the number of registered beneficiaries, weighted by health need factors. A re-insurance premium of 2.5% was deducted from the budget allocations by the MOPH to pay for high cost care, defined as a patient whose DRG relative weight was greater than 2.5. Different mechanisms were used in the provinces to pay the providers, ranging from per capita allocation, to forms of weighted DRGs, sometimes using a points system for allocating payments, with the points based on relative unit cost of services at health centres, district and provincial hospitals. The LICS was funded out of general taxation via the MOPH. It offered comprehensive service cover, in principle, with no co-payments.

(e) **voluntary health card scheme** The VHCS was based on a prepaid contribution matched by public funds and was estimated to cover 18% of the population (say 11m people). It developed from a pre-paid health care card introduced in 1983 aimed at mother and child health, taking on a family card form in 1993 (Pannarunothai, S. et al. 2000). The VHCS used public hospitals which were reimbursed on a limited fee for service payment. It was funded via matching household and MOPH funding of 500 Baht (£7). It raised 1 billion Baht of revenue in 1997. There were no co-payments. There was a qualifying period of 30 days before eligibility for services to combat adverse selection.

(f) **Private insurance** 1-2% (say 1m people) There is no reliable data on the numbers of privately insured people. A National Statistical Office survey reported figures of 1.4% coverage, but estimates by the Department of Insurance are for a much higher rates of 10%. The differences partly reflect the fact that most health insurance cover is provided as

part of life insurance policies. Private insurance uses public and private hospitals on fee for service. There is limited co-payment, depending on the policy.

(g) **Traffic Accident Victims Protection Fund** (TAP) run by the Department of Insurance, Ministry of Commerce. This is a mandatory scheme, whereby a premium is paid by car owners to private insurance companies. Compensation covers injuries, disabilities and death. The scheme employs a retrospective fee for service reimbursement with a maximum ceiling.

(f) **The uninsured** These were required to pay out-of-pocket at the point at which they sought health care, although public facilities did operate a scheme for waiving payment. Public hospitals have been variously estimated to get 20-50% of their income from out of pocket co-payments by patients. Co-payments and out of pocket payments were thus significant sources of funding for both public and private hospitals before the universal coverage scheme was introduced. Estimates of the uninsured prior to universal coverage vary, but those without any form of public or private insurance could have been around 30% of the population or 18m people.

Coverage can be summarised as follows:

Table 4 Percent population coverage and trends, 1991, 1996 and 1999

Schemes	1991	1996	1999	1996*	1999*
I. Medical Welfare Schemes	12.7	12.3	12.4	29.5	22.5 (32.1)
2. Government employee scheme					
• CSMBS	13.2	11.3	7.8	11.3	7.8
• State Enterprise	2.1	1.4	1.1	1.4	1.1
3. Social Security including WCS and employer welfare	0	5.5	7.1	5.5	7.1
4. Voluntary insurance					
• Voluntary Health Card	1.4	13.2	28.2	13.2	28.2 (18.6)
• Private insurance	3.1	1.2	1.4	1.2	1.4
5. Others	0.9	1.1	1.7	1.1	1.7
Insured	33.5	46	59.8	63.2	69.9
Uninsured	66.5	54	40.2	36.8	30.1
Total	100	100	100	100	100

Source: National Statistic Office, Health and Welfare Survey 1991, 1996, and 1999.
* Adjusted figure of NSO by including children and elderly who reported as the uninsured in the Medical Welfare Scheme. Figure in parenthesis shows the coverage when removing all children and elderly to the MWS.

2.2 The shape of health care provision

There is a concentration of beds and doctors in Bangkok. Private provision is also concentrated in Bangkok, although this partly reflects a commercial response to the decision of successive governments to expand public hospital capacity outside of Bangkok. Private sector expansion occurred primarily in the period of rapid economic growth 1988-97 with government incentives via the Board of Investment (Green, 2000). The development of the SSS also provided opportunities for the private sector. Many employers also had voluntarily provided private health care benefits to their workers over and above those of the SSS, benefits in which the private sector had a significant share of provision. After the 1997 economic crisis, however, households shifted health consumption from the private to public sectors as reflected in Table 1. Most supplementary health benefit arrangements were terminated by employers in response to the crisis. There is now excess capacity in the private sector.

The government has put a strong emphasis on building up primary care with health centres (which do not have doctors or beds) in all sub districts and community hospitals (10-120 beds) in more than 90% of districts. Most community hospitals should be able to perform basic surgery such as appendectomy and hernia, otherwise they refer to provincial hospitals. This reflects the relatively specialised nature of the medical profession in Thailand.

Most public hospitals are owned by the MOPH. University hospitals are separately administered and owned by the Ministry of Education. Other Ministries have hospitals (e.g. the army) and the Bangkok municipal authority has some, which come under the Ministry of the Interior. Legislation introduced autonomous hospitals as non-profit government hospitals governed by their Board as part of a plan to develop autonomous public sector providers in a number of different public services. Board members, in the case of health, would, in principle, consist of representatives from the government such as the MOPH, and of the provincial governor and provincial chief medical officer, from local government and from the community. The Board has the power to appoint the director and employees, with salary and incentives based on performance. Hiring and firing is more flexible. There is, however, only one autonomous public hospital (Ban Phaew Hospital). Other public hospitals have not gone down the autonomy route because of the potential financial risks. Provincial hospitals, public community hospitals and health centres are owned by the MOPH. There is a Devolution Law, passed in 2000, which transfers health centres and hospitals to local government (the Provinces and Districts) but this has not yet been implemented. There are also for-profit and not-for-profit private hospitals.

The delivery of health care favours the better off, although a greater proportion of poorer people use the public facilities. Table 5 sets out choices of care by educational level.

Table 5 Choices of care sought by educational level

	No education	Primary school	Secondary	Technical college	University & higher	Total
Traditionals	5	3	1	2	0	3
Self medication	27	32	35	34	29	31
Public facilities	55	46	36	35	30	45
Private facilities	13	20	28	28	41	20
Total	100	100	100	100	100	100
N x1,000	986	5,802	904	63	138	7,893

Note: 1. Chi-square test p-value <0.05
2. There is missing data on educational level

Source: Tangcharoensathien and Pitayarangsarit 2001

The non-educated use proportionately more self-medication and less private facilities, and vice versa among the university and higher graduates. There is also a decreasing trend of use of public facilities when higher educated.

Choices were governed by terms and conditions on access by each insurance scheme. The beneficiaries of the Low Income Scheme, the Voluntary Health Card and CSMBS were bound to use public facilities. The uninsured also use more services from public facilities as set out in Table 6 below. However, as we noted in Table 1, there has been substantial out of pocket payment for use of facilities. These include both public and private. Use of public facilities did not mean that access was free at the point of use. We thus have the anomaly that poor people were paying out of pocket to use public facilities.

Table 6 Choices of care sought by insurance type

	Uninsured	CSMBS	SSS WCS	HC / LIC	Private insurance	Total
Traditionals	2	1	1	3	0	2
Self medication	33	22	41	25	23	29

Public facilities	39	46	25	56	19	46
Private facilities	26	31	33	15	58	23
Total	100	100	100	100	100	100
N x1,000	4,373	857	317	3,650	73	9,269

Note: Chi-square test p-value <0.05

Tangchaorensathien V, Pitayarangsarit S (2001).

3. The 30 Baht arrangements for achieving universal access to subsidised health care

The Prime Minister Thaksin Shinawatra was elected in a landslide victory for the Thai-Rak-Thai (Thais love Thais) Party in January 2001 on a platform that included a pledge to introduce universal access to subsidised health care.

Initially, Thai-Rak-Thai party policy was for a 1200 Baht (£17) annual flat rate insurance payment plus a 30 Baht (£0.50) co-payment. This was dropped a couple of months before the election in favour of a "30 Baht treat all" campaign, with the balance of the costs of providing universal access to subsidised health care to be funded from general taxation (Pitayarangsarit 2002).

The initial plan of the MOPH, once the government was elected, was to merge resources from all of the established publicly subsidised schemes (CSMBS, SSS, WCS, LICS, VHCS and TAP) into one single payer scheme in order to improve administration (including avoiding duplications in registration) and close the gap of inequity in terms of the levels of subsidy and variation in benefit packages of the existing public schemes (which, for example, favored the CSMBS as against LICS). However, this would have required legislation which would take time. There was resistance from the Government Departments who ran the other schemes and from the civil servants and trades unions who benefited from the CSMBS, and SSS respectively. The approach taken in the financial year 2002 (Oct 01 to Sep 02) was therefore to pool the internal MOPH budget, comprising the regular budget for public hospitals and health facilities, and the LICS and VHCS schemes, to fund a universal access (UC) scheme. This administrative measures could be done easily, initially, without legislation, enabling progress to be made whilst legislation was prepared and debated both inside and outside the parliament.

The government introduced a pilot of UC from April 2001 in 6 provinces which had been part of a World Bank "Social Investment Project" of health care financing reform and so were regarded as having a the requisite registration system and financial management skills (Pitayarangsarit, 2002). A second trial wave of 15 provinces began in June 2002. As there was full national implementation from October 2001, little could be learned from the pilots before plans had to be made for rolling out UC to the rest of the country. There were concerns that the pilots lacked clear goals other than the achievement of universal access to subsidised health care, and there were frequent changes of policy and guidance plus a well grounded suspicion at the centre that some administrators raising problems were acting out of lack of support for the universal access to subsidised health care policy rather than concern about how to implement it. The registration of and card issuing to 40 million people was a considerable logistical effort. The Social Security Office has developed a very good electronic beneficiary database for administering the SSS, but unfortunately the CSMBS has no beneficiary database. Verification using the Ministry of Interior civil registration database was difficult, and delayed budget allocation to institutions. Two editions (May 2001, and January 2002) of the key MOPH document "The principles and guidelines for implementing Universal Coverage policy in the Transition" were quite different. Resource allocation rules within provinces varied and were changed, in part in response to the fear of bankruptcy among provincial hospitals.

A draft National Health Insurance Act was passed by the Senate on 31 August 2002 and by the Parliament on 9 October 2002. This puts the changes introduced through administrative action into legislation and creates the new institutions required to regulate the quality and financial elements of the scheme. The Act covers all aspect of health care regulation including the rights of insured persons, the role of the National Health Insurance Committee and Office of the Secretariat, sources of funds, regulation of health care providers and standards of care including the establishment of a Committee on Quality and Standard of Care. One innovative article is the setting up of a medical error liability fund earmarked from 1% of health expenditure.

The most debated articles related to the functional merger of CSMBS and SSS. While the Act preserves all benefit entitlement for CSMBS and SSS members, it will put management of the financing aspect of these schemes with the National Health Insurance Office which runs the universal coverage scheme. Functional merger will be implemented when each scheme is ready, through the promulgation of a Royal Decree.

In principle the Act, together with the Devolution Act referred to earlier provide for a clear separation of responsibilities with the National Health Insurance Office, an independent public corporation, managing the scheme, administering the financing and benefit coverage, the MOPH still owning most of public facilities as there is a delay in the implementation of the Devolution Act. . The Hospital Accreditation Institute is responsible for regulating quality of care. An unresolved issue is whether the NHI Office will set up its own provincial health offices or use the MOPH offices. If the NHI provincial offices become the purchaser then an effective purchaser – provider split will have been introduced.

4. Issues

4.1 Financing

The decision to fund universal access to subsidised health care through general taxation and the MOPH budget raises two related questions:

- firstly, the technical issue as to how feasible it is to estimate the likely cost of the scheme on a "bottom up" basis, estimating usage and cost per visit?

- secondly the political question as to what the government thinks can be afforded on a "top down" basis, given the existing MOPH budget and the economic constraints facing the country?

"Bottom up" calculations of cost

For the fiscal year 2002 a per capita rate of 1202 (£17) Baht was used. This followed studies that estimated a per capita rate of 900 Baht (£13) and of 1500 – 2400 Baht (£22 - £35) per capita (Pannurunothai et al 2002). The Working Group on Universal Coverage (HSRI 2002) proposed that the per capita budget for 2001 should be set at 1500 Baht (£22). However, this was argued not to take into account the reality of government fiscal constraint, lower compliance rates with registered providers (compliance rates refer to the proportion of people who go to the provider they are meant to go to – if they go to a different provider they are not covered by the UC scheme and have to pay out of pocket), and the potential for cost saving through the improvement of efficiency in hospitals (Tangchareonsathien V, Prakongsai P, Patcharanarumol W, et al (2002). The main differences were due to assumptions in the simulation models of numbers being hospitalised and of the unit cost of treatment. The calculations behind the 1,202 Baht (£17) figure are set out in Table 7 below:

Table 7

Actuarial estimation of resource requirement

Institutional visits	Proportion visit	Cost/visit Bht.	OP Cost/ cap/ yr	Proportion adm.	Cost / adm	IP Cost /cap /yr
H. centres	0.151	60	39	Na		
District hosp	0.129	221	124	0.332	2,857	63
Provincial hos	0.155	278	187	0.488	5,424	175
Private clinics	0.195	221	187	Na		0
Private hosp	0.031	278	37	0.18	5,424	64
All levels	0.661		574	1		303
OP+IP /cap/yr (574+303)	877					
High cost care / capita	32					
A&E / capita	25					
Preventive, 20% OP+IP	175					
Capital, 10% curative	93.4					
Total cost / cap / year	1,202.4					

Source: Tangcharoensathien, V., Teerawathananon Y., Prakongsai, P., (2001).

The estimate of 1202 Baht was, in turn, criticised as based on old estimates of morbidity and of service utilization (1996 survey data) and flawed unit cost of service data. However, the benefit package was finalised by reference to the SSS package, with some exceptions, namely Anti-retroviral drugs for people living with AIDS and hemodialysis for end stage renal failure patients. A Task Force proposed a higher rate of 1414 Baht (£20) for the fiscal year 2003 based on 100% compliance. It used 2001 illness data (the most update available comprehensive dataset). Unit costing data of 2001 was employed and accepted by all stakeholders (Prakongsai, P., Patcharanarumol, W., Tisayatikom, K., Tangcharoensathien, V. 2002)

This figure was cut by the Budget Bureau to 1300 Baht (£19) with an assumption of only 85% compliance for ambulatory care, i.e. that only 85% of those eligible go to the provider they register with. Thus budget spend is only 85% of the maximum per capita required. The other 15% of people go to institutions they have to pay for. A household survey in four of the pilot provinces for the UC scheme found an even lower compliance rate at registered providers by UC card holders when ill, of 59% and 69% respectively for ambulatory care and inpatient care. It seems reasonable to adjust for 85% compliance for ambulatory care, but still provide 100% compliance for inpatient care. The figure 1300 Baht is a result of this adjustment, in lieu of the public finance constraint. Yet the Budget Bureau still approved only 1202 Baht for FY2003. The National Health Insurance Office (set up at the end of November 2002) negotiated more budget from the Central Fund (a general pot for government contingency outside of the line budgets of ministries, and for other cross cutting budgets e.g. pension benefits).

A "top down" view of the MOPH budget

Nitayarumphong and Pannarunothai, 1998, report estimates that universal access to subsidised health care could double the government's health care budget. They argue, however, that the government can be the major purchaser of health care with only marginal investment but through drastic health sector reforms." (p271)

The implications of the estimates of coverage in section 2 is that the MOPH was covering around 51% of the population, (31.5m people) and now has to cover another 18.5m uninsured people. 43.5m people at 1202 Baht is a cost of 60.1billion Baht (£765.6m). In financial year 2002 there was no 85% adjustment and the contractor gets the full figure of 1202 Baht. It is adjusted for FY2003 (Oct 02-Sep 03). An 85% adjustment reduces the cost to 51.1 billion Baht (£751.5m). The government in practice paid 51 billion in 2002, which took into account the slightly delayed introduction of the reforms into Bangkok. For FY2003, the negotiation for 1300 Baht (£19) is still underway. Comparable figures for pre-UC spend are difficult to identify. It is clear, however, that spend has not increased in line with the increased number of people covered by UC as compared to LICS and VHCS.

The implication may be that the Cabinet would only approve the scheme if the funding levels were acceptable, so the MOPH went for lower capitation figure to get the scheme through, i.e. the assumptions in the bottom up calculation were amended to produce an affordable figure. The objective presumably was to get the scheme underway and tackle problems as they arose. There is a strong political will on the part of the Government and overwhelming public support as reflected by six and twelve month polls after the government took office. The case for caution was obvious. Public debt was 68% of GDP in the first quarter of FY2001. Moreover it is easier to increase a conservative capitation rate than to bring down a capitation rate once given. Experience with the SSS suggested it takes three to five years to gain the level of use rate as planned in the capitation. Whilst higher capitation rates (at 1500 Baht (£22)) would be welcomed by providers it is not clear it would lead to better quality of care. However, there is always the risk that the scheme is not able to provide acceptable levels of care to many of those entitled to receive it, discrediting the universal coverage policy. Most importantly, if the Budget Bureau does not accept the scientific basis of the "bottom up" capitation estimate and instead maintains the status quo at 1202 Baht for several years, the degree of under funding would severely jeopardize quality of care and widen the gap of non-compliance. Policy intention will be gradually distorted by fiscal constraint.

It is also unclear what the financial significance will be of ending the ability of public hospitals to charge full payments for those previously not covered by any schemes. The VHCS was estimated to raise about 1 billion Baht per annum in prepayments before it was scrapped when UC was implemented. Full payments at hospitals for those sought care outside registered providers were likely to have been much higher, as reflected by lower compliance, 59% and 69% for ambulatory and inpatient admission among UC card holders. However, if many patients continue to visit public providers outside of their UC network and have to pay in order to do this then public hospitals will still get significant out of pocket income. The implication is clear. Either public hospitals lose a significant source of income – or the UC scheme fails to stop poor people making substantial out-of-pocket payments for access to public sector provided health care. Next year, when the database on the 2003 Health and Welfare Survey conducted by National Statistical Office is available, benefit incidence studies can be performed to generate better inform policy in this area.

4.2 The change in funding formulas and the different payment mechanisms used by the Provinces

The funding reform involves a shift from a "producer or supply led" allocation to health facilities to a "customer or demand led" allocation based on population in catchment areas. This was implicit in the Thai-Rak-Thai campaign "to shift the health service authorities back to the citizens". This raises two issues:

- how a demand led allocation formula should be constructed, and how provider institutions should be paid?

- how to manage the transition and tackle the discrepancies between the monies providers were receiving under the old method and the new.

A demand side allocation formula and choice of payment mechanism for providers

The formula is a flat rate per capita allocation, with an expectation that a more complex capitation formula will evolve. Funding is to the Provinces who then allocate to contractors on an inclusive or exclusive basis. Inclusive means a single capitation payment that covers ambulatory and inpatient care. Contractors have to meet all of the costs of referral cases for in patient care out of this capitation figure. Exclusive capitation means capitation only for ambulatory care. A global budget for in patient care is held at the provincial level. The original concept was to hold this budget at national level, but this is technically impossible at present. (Holding a global budget e.g. 303 Baht (£4) per capita for hospitalization (see Table 7 above) multiplied by total beneficiaries would have been the level of global budget for the whole country. This could then have been centrally managed by the NHIO for the initial years, with hospitals reimbursed on their DRG outputs within this budget ceiling, i.e. more DRG points claimed, less reimbursement per weight, and vice versa. After a couple of years, a historical budget for in patients for each individual hospital would be formed, and the government could use this historical budget level as a global budget for an individual hospital. Thus a temporary centralized DRG payment strategy could come up with a budget ceilings for individual hospitals.) With exclusive capitation, contracting hospitals are responsible for referral outpatient cases only within the capitation payments. For in-patient care, all contractors in a province would be reimbursed based on DRGs, with Baht per DRG weight varying according to workload and location (e.g. community or provincial hospital).

Policy debates on the relative value of inclusive and exclusive capitation centred around the pros and cons of each method. Inclusive capitation might stimulate district health systems development, but physicians might not adequately refer clinically-indicated cases to provincial hospitals for fear of the expenditure involved in paying the provincial hospital for the referral. In patient admission rates might be lower than optimum and in patients might be "dumped" into ambulatory services. Exclusive capitation could send a signal towards over-admission of unnecessary cases to generate revenue and "DRG creep" could take place; however, it would ensure proper referral for admission when needed.

The SSS uses inclusive capitation for ambulatory and in patient care – resulting in low costs of central administration, and incentives for hospitals to sub contract services that could be more efficiently be provided in community hospitals, health centres or private clinics. Exclusive capitation (as used in the LICS) uses capitation for primary care, and weighted DRGs within a global budget for secondary and tertiary in patient care. The issue is who controls the allocation of patients and money between levels of care. As at December 2001, 37 provinces were using the exclusive model and 30 provinces reported using the inclusive model (Pannarunothai et al, 2002)

Funding includes salaries. There was a long debate as to whether this should happen as it would mean putting employees (who are legally civil servants) salaries at risk if their institution does not get enough money. However the government agreed to guarantee staff salaries in hospitals. Thus in practice there are two contracting issues – inclusive capitation versus exclusive (i.e. split in patient and outpatient) – and salaries deducted at provincial level or at contractor unit level. As at December 2001, 36 provinces deducted labour costs at provincial level, 34 at the contractor unit level and 5 used a mixed method. (Na Ranong and Na Ranong, 2002)

Some provinces are setting differential capitation rates for primary care with more money for rural as compared to urban contractors. They are also using different base rates for relative weights in the DRG calculations as between community and provincial hospitals with the latter getting pro rata between 20% and 150% more per base rate than the former, depending on the province (Pannarunothai et al, 2002).

The experience of the use of capitation in the SSS (Mills et al, 2000) was fundamental to its current use in the universal access to subsidised health care scheme. The SSS showed that capitation could contain costs; although it also showed the risk of limiting care when applied to in-patient care. No age or sex adjustment was thought necessary in the SSS case because only workers were covered. A few high cost procedures were excluded (e.g. chemotherapy and brain surgery) and funded separately from an SSS reserve, and there was also separate provision for accident and emergency care, all based on fix fee schedules. Using evidence from household surveys and from costing studies the capitation rate was calculated on the basis of three ambulatory visits and 0.5 hospitalisation days per capita per annum. Although there was a policy preference for paying the capitation fee to a primary care provider, this was not feasible at the time. The capitation rate was set at 700 Baht (£10) per annum. There was competition for workers, initially by employer, but later, from 1995, the choice lay with the individual worker, although competition was restricted as:

- hospitals had to have more than 100 beds to become the main contractor;
- the appalling traffic in Bangkok restricted competition in the largest population centre;
- not all private hospitals were prepared to participate in the scheme.

The capitation formula led to the development of competing networks. The number of facilities in public and private networks rose from 600 in 1991 to nearly 4000 in 1999. In the case of UC, a network of contractors organised by the District health system (via a Co-ordination Health Board) and including all sub-district health centres and the district hospital is the main contractor. In a provincial city, the provincial hospitals and health centres in the catchment area form into a single contractor network. Networks are therefore developing to deliver primary care. Thus the UC scheme has the potential to drive through major changes in the distribution of services, as happened as a consequence of the SSS payment arrangements. However, the current UC contracting process does not allow citizens to choose their contractor, and the potential split of funding as between capitation and DRGs reduces the incentive to create integrated networks. Reorganising services usually creates protest from those affected. It may have been politically easier to achieve major change in the provision of services in the case of the SSS scheme because additional funding was going into the health care system via employers and the Ministry of Labour. In the case of the UC scheme, public providers losing out under the new formula may be more vocal in their demands for compensatory funding, as we now discuss.

Managing the transition and discrepancies

A contingency fund of 10 per cent (5 billion Baht (£7.4m)) was set up to relieve hospitals, to subsidise pre UC higher resource consumption hospitals (reflecting the historical incremental budgeting process leading to higher medical staff and higher bed population ratios in these hospitals). With the UC formula they have been placed in difficulties due to the small population size they serve (in some hospitals, capitation does not even cover the staff payroll). In some cases there are two or three provincial hospitals in one province.

Calculations at the contractor unit level, using simulation of income from capitation budgets suggested 8% of community hospitals (56 out of 727) and 17% (17 out of 103) of bigger hospitals (150 beds or higher) would be in severe difficulty because the contractor unit income would not even cover salary costs (Pannarunothai et al. 2002). When salary is protected, however, the provincial hospital takes budget allocation away from other district hospitals in the province. After deductions at the provincial level for salaries, non-labour operating expenditure will be pro-rata allocated to all hospitals in a province according to population size. Under this mechanism, district hospitals complain that they are subsidizing provincial hospitals who are inefficient, and over-staffed. The problems are concealed and do not lead to the re-allocation of staff.

The 2001 allocations of 1202 Baht (£17) per capita flagged up many provinces with deficit budgets, i.e. MOPH expenditure prior to the introduction of UC was above the population based budget. In practice the 4 billion Baht allocated from the fund showed that those provinces that chose to deduct labour cost at the contractor level (i.e. which pushed costs down to the lowest level risk pool) were more likely to apply for contingency fund resources (88% did as compared to 29% of those deducting salary at provincial level) and those using inclusive contracting were more likely to get extra funding (76% versus 50% for those with exclusive capitation arrangements) (Pannarunothai et al, 2002). This fits with the conclusions of the (Executive Summary case study) that the inclusive model caused more disruption, but did not appear to bring about redeployment of health personnel. Whilst it is likely to take time before services and personnel are reconfigured, high level MOPH policy makers have so far not been prepared to put the necessary personnel management mechanisms in place to support redeployment. Of course we have to be careful about cause and effect here. Provinces anticipating deficit problems may have passed the problem onto their contractors by giving them inclusive (including salary) capitation rates. Due to fiscal constraint, no contingency fund is currently planned for FY2003.

4.3 The shift to primary care in the contracting process

The PCU (primary care unit) has been introduced in these reforms as the main health deliverer of care to its registered populations. The PCU is de facto a health centre or a separate unit in the same building as a community or provincial hospital. This reinforces the push of MOPH policy towards primary care as a more efficient and equitable delivery mechanism. The UC policy requires registration with a PCU provider in a network who is then allocated the capitated budget (or the primary care element of it). As we noted above, typically, the district health system is acting as a network of PCUs, with an individual being assigned to both a health centre and to the district hospital located in his/her domicile. In a typical province, there will be five to seven district health systems networks and one or two networks in the provincial city, one set up by the provincial hospital, the other by a private hospital network. The contracting unit is therefore a network of Primary Care Units (PCUs) who sign a contract with the provincial health office to provide care to the registered populations.

This is an advance on and radical change from when the SSS was introduced. The SSS uses 100 plus bed institutions as the main contractor. This is because when the SSS scheme was set up it was not feasible to use primary care as the main contractor as public sector health centres focussed on prevention and primary curative care was largely delivered in the out patient departments of hospitals, or by government doctors working out of hours in their private clinics (Mills et al, 2000). In addition, most of UC beneficiaries are rural population, whereas SSS workers are employees living mostly in urban areas.

The emphasis on PCUs has led to all hospitals setting up PCUs using rotating staff, i.e. more like a mobile clinic or extended out patients department than a primary care facility. They were also set up in competition to existing facilities to enable the provider to get capitation rather than extending access to primary care (although this may evolve in a positive way when more PCUs with full time staff are functioning). Preventative and health promotion services are also included in the benefit package. There are mixed signs of the impact (Pannarunothai et al, 2002) with PCUs meeting public needs by having more doctors and so resembling hospital outpatients with less need to travel, but no evidence of prevention and promotion work and dissatisfaction on the part of doctors that they are having to leave their community and provincial hospitals to provide the same care to fewer patients – patients they believe would be quite happy to travel to hospital. Specialists in big hospitals and scarce doctors in high workload community hospitals are being forced to rotate to work in PCUs whilst the workload at the hospital is still high. This raises an important issue as to whether these problems are transitional, whether the skill mix of the medical workforce needs to be addressed, or whether there is simply an increase in demand for services.

4.3 The impact of the formulas on behaviour

Managers of large hospitals facing funding cuts have reacted (Pannarunothai, S. et al. 2002) by seeking to:

- cut costs (especially by cutting drug costs and shortening treatment periods, requiring documentation if doctors were treating expensive cases, delaying treating non-urgent referrals, and not increasing pay or remuneration for itemised activities);
- expand their catchment areas by covering more PCUs, negotiating on resource allocation rules with the Province;
- asking for contingency funding and
- cutting education numbers.

Community hospital managers behaviour varied. Those expecting to be under budget pressure (especially those in provinces which deducted salaries at the provincial level so passing risk from big to small hospitals) reacted as did the large hospital managers, plus they:

- made contracts for referrals with neighbouring provinces when this cost less than referral to their own provincial hospitals;
- negotiated with private hospitals when this cost less than sending patients to public hospitals.

Those who were confident of gaining used the extra resources to make themselves even more attractive to patients in the future, for example by:

- extending PCU availability – in some cases to 24 hours – with increased staff payments for on-call duty ;
- referring to other hospitals when patients wanted this;
- giving the hospitals a facelift;
- inviting doctors from big hospitals to perform surgery in their hospitals;
- increasing staff, including part time nurses from private hospitals.

The use of competition for SSS registered workers led to changes in public and private provider behaviour in two networks in Bangkok (Mills et al, 2000). It led to the development of networks, a lot of innovation, but behavioural responses to the capitation limit that had the potential to impact on the quality of care. For example:

- Nopparat, an MOPH hospital, had no outpatient service out of hours and was losing business. It built up a network of local public and private providers it could sub contract to. Referrals were to Nopparat;
- the MEDSEC network was led by a for-profit company which initially paid providers on a fee for service basis but then moved to set up sub networks who were given the bulk of the capitation fee and expected to manage. The network broke up in 1996 into the four separate sub-networks;
- hospital managers felt that there were delays in referring patients to more expensive institutions. Some delayed non-emergency service and asked workers to register with another hospital the following year;
- in both public and private hospitals payment status was clearly labelled on medical records. However, whilst the public hospitals did not appear to discriminate between groups of patients in the structural aspects of care, the private institutions more commonly developed separate and parallel facilities, and, for SSS patients, made more use of generalist rather than specialist doctors and of nurse aides rather than qualified nursing staff. Some hospitals paid doctors lower fees for SSS patients, creating incentives to process them more quickly and perhaps discourage follow-up visits. One hospital paid a bonus based on savings from the SSS capitation payment;

- in one private hospital, hypertensive SSS patients were given drugs for only one month as compared to 2-3 months for other patients, increasing the frequency of hospital visits and so eventual drop out from the programme;
- where it was difficult to tell if an injury was work-related or not (e.g. back pain) private hospitals invariably claimed from the fee-for-service WCS rather than covering costs within the capitation fee.

As Mills et al note "Although measures such as these are likely to reduce the cost of care provided to insured patients, it is unclear what impact they have upon the quality of care provided."

4.4 Role of private providers

Thai-Rak-Thai Party policy is for people to choose to register with a public or private provider – both to provide choice and to encourage competition and so greater efficiency. However, it was agreed early on that only public providers would be in the scheme at first and the public would not get a choice even amongst public providers. Thus there are 3 phases:

Phase 1 public providers only and no patient choice of provider to register with;
Phase 2 public providers only but with patient choice of provider to register with;
Phase 3 public and private providers with patient choice of provider to register with.

MOPH is, however, now allowing limited private sector participation (limited population size, and no providers established after April 2001). MOPH has concerns both as quality regulator and as owner of the public hospitals, although these will be addressed once the National Health Insurance Act is promulgated. The NHIO, an independent agency would play purchasing role, whilst the MOPH maintained a service provision role. The issues on giving people free choice of registered providers must be tackled with care, as almost all district health systems have no private providers. The National Health Insurance Act article 26(7) stipulates that the NHIO would arrange PCU to beneficiaries and will change registered providers upon request.

We should note that initially private providers thought the 700 Baht (£10) capitation payment in the SSS scheme (now 1200 Baht (£17)) to be too low (Mills et al, 2000), but for a healthy population this was not the case. Utilisation was low and people also sought care outside of registered facilities for which they had to pay themselves. Private providers entered the market aggressively and the market share of the public sector fell from 83% in 1991 to 45% in 1998. The current figure is around 55% private and 45% public contractor share.

4.5 The benefit package

The benefit package of the UC scheme is comprehensive covering ambulatory, inpatient, prevention and promotion services, high cost care, and accident and emergency care. To minimize the gap in benefit package between the various publicly funded schemes, policy makers decided to use the SSS benefit package with some exceptions. For example, comprehensive prevention and promotion services are included in UC but not SSS. ARVs are included in neither UC or SSS. Hemodialysis was covered by SSS but excluded by UC. Prevention of mother to child transmission of HIV, a national scheme, is covered by all schemes -- UC, CSMBS, and SSS.

4.6. Impact on equity of financing and of treatment

Evidence on financing

Studies on the tax burden demonstrate strong tax progressivity in personal income tax, tax regressivity in most indirect taxes, and near neutral or proportional tax burden in the case of excise tax. Benefit incidence of public expenditure (health, education and public

infrastructure) has been in favor of richer groups rather than the poor simply because middle income or rich families were able to use public services more effectively than the poor (Patmasiriwat D, 2003).

A survey of four out of the 21 pilots provinces sampled 1000 households in each of the four provinces from late October to early December 2001 (Pannarunothai. et al. 2002). It found that even after reimbursement those in the lowest income quintile were spending 7.5% of their income on health as compared to the average of 1.6%. For the old LICS this was 7.4%, and for the CSMBS it was 3.7%. The SSS had a figure of only 0.1%, and was highly progressive. This suggests that poor people are still paying out of pocket for some health care services. This may reflect constraints on the UC scheme which means that people chose to pay for care rather than travel to institutions where they could receive the care free, despite the fact that the registered providers are the health centre in the vicinity and the local district hospital. This prompts the need to investigate the problems of compliance to use services at registered providers. Evidence from the four provinces is limited at this stage, however, as the new system was operating only for a few months when the survey was conducted.

Evidence on utilisation

In the four Provinces surveyed, 1 province began as a UC pilot in April 2001, the other 3 in June 2001. UC coverage averaged around 70%, with 9% of the population still having no public insurance (the rest has CSMBS or SSS – some had UC and one of these). 36% of those without a card were in the top two income quartiles (4 and 5) and presumably had private insurance. However 23% were in the bottom two income quartiles (1 and 2) and should have been eligible for the old LICS as well as for the UC card. Whilst the old LICS and VHCS had more than 50% of their members in the bottom two income quintiles the additional groups picked up by the UC card were in groups 3 and 4, i.e. the middle income groups. This suggests that the UC scheme has been more effective at expanding coverage to the middle income quartiles than in increasing access for the bottom two income quartiles.

Overall compliance rates for the UC scheme were 59% for ambulatory care, but higher (74%) for those on incomes below 2500 Baht (£37). This may mean that the UC scheme is not giving people access to the providers they would prefer to go to. However, the issue may be the policy change the government is seeking to implement in health seeking behavior. Prior to UC, bypassing primary care to tertiary provincial hospitals was very common. With UC, patients are bound to use primary care services in the locality. This is a change to existing behavior, and it may take time to gain patient confidence in the quality of care at primary level. In the longer term, the policy is designed to increase health system efficiency and rational use of levels of care. A report from the MOPH found a reduction of ambulatory caseload in tertiary provincial hospitals since the scheme began. Directing patients rather than giving them choice does however have other welfare implications and prevents the use of patient choice to improve provider performance.

5. Conclusions and Recommendations

5.1 Lessons for other countries

Lessons for other countries are primarily the need for:

- strong political backing as a pre-requisite for major health reform to be successful;
- capacity in a number of dimensions.

These dimensions of capacity include:

- the importance of administrative capacity, e.g. Thailand was able to achieve high registration rates quickly because of the existing schemes;

- research capacity, needed for evidence based policy formulation, together with skill in interfacing research and policy formulation process;
- cumulative experience in insurance scheme management, from targeting the poor since 1975, to the introduction of the Social Security Scheme for employees in the 1990s;
- comprehensive geographical coverage of health care delivery facilities, especially in rural settings.

Difficulties have arisen from instituting several reforms through one major policy shift: namely primary care development and family physician advocacy, abrupt reversal of traditional budget allocation from historical incremental budgeting, switching resources from existing resource-rich provinces to large populated provinces. The political impetus meant that implementation required rapid change in policy which lead to some confusion within government and between the MOPH, provincial health offices and provider units.

5.2 Recommendations for Thailand

We put our lessons / recommendations for Thailand under three headings.

A need for monitoring, evaluation and research.

- monitoring of the effects of a capitation-based budget. Look at how to stimulate developments of preferred networks as happened with SSS;

- proper monitoring of quality, looking at unethical treatment practices as well as structural quality;

- need to monitor the risk of big short term funding impacts on key teaching / research public hospitals in major urban areas. Special provision has been made for teaching and other super-tertiary hospitals in FY2003. However, it may be that a completely separate stream of funding for teaching and research activities at major hospitals is required;

- a research agenda to assess benefit incidence and the fairness of financial contributions is needed to provide insight on policy options for the collection of contributions by higher income beneficiaries and the fine tuning design of the delivery system.

A need for fine tuning of the reforms

- some kind of constraint on degree of budget redistribution, i.e. a phasing in of the new formula;

- importance of having an active and effective purchasing activity i.e. provinces to manage which providers gain and lose based on quality and popularity with patients. This policy is in the pipeline, for when the National Health Insurance Office (NHIO) is set up and fully operational. The NHIO will be fully operational by May 2003.

- recognise the current problems with lack of doctors / nurses and facilities for effective primary care, need for training / new people. The continued medical education (CME) has already recognized the need of refresher courses on family medicines and preventive medicines.

- there are advantages in making more use of the autonomy of public institutions and introducing greater use of contracting by effective purchasers with both public and private health care providers. Public hospitals can use revenue generated from UC, SSS and CSMBS quite flexibly.

- the use of capitation / DRGs in a mix of inclusive and exclusive capitation rates needs to be revisited. Hospitals should be paid on DRGs but there is a strong case for inclusive capitation as it puts the focus on reorganisation firmly within the network. In FY 2003, however, the MOPH has decided to go with exclusive capitation throughout the country and a more standardized mechanism for payment within the network e.g. between district hospitals and health centres.

A need to consider major changes in the reforms

- need to use patients as informed purchasers, while not relying on them to judge the technical quality of care, i.e. give them a choice of contractor;

- inclusion of private sector to generate competition and stimulate innovation in public and private sectors. This is most relevant to urban rather than rural areas where private services consist of clinics run by public doctors;

- need for a realistic assessment of the budget requirements, i.e. that takes account of the loss of co-payments, use of other hospitals (i.e. non-compliance), and potential volume increases; and identification of sources of additional funding if there is a major shortfall.

- a need to match the definition of the benefit package to the resource constraints – otherwise there is danger of unfunded mandate. The Budget Bureau has not accepted the capitation levels recommended by most independent experts. It is difficult to limit the package of what is available for 30 Baht (£0.40). There has been implicit rationing to date in Thailand through out of pocket payment, a need to travel to obtain treatment, and traditional low expectations of medicine. There is a danger that if UC relies totally on general taxation, and the capitation rate is not adjusted to reflect costs and utilisation, the quality of care and confidence in the UC scheme will deteriorate. If this leads increasingly to people paying out of pocket to use providers outside of the registered providers the policy objectives will not be realised. Policy must consider the scope for contributions by better income beneficiaries and also how to improve the quality, image and responsiveness of health care delivery at registered providers.

  The National Health Insurance Act, on source of finance, Article 39(8) does provides room for the collection of contributions by beneficiaries. This could be through higher co-payments at the point of use (for higher income users or for some services) or through some kind of social insurance or tax which may be more equitable. An important issue, however, is organizational capacity to collect any contributions. One route is to expand the SSS to include spouses and dependants. This follows a route seen elsewhere of expanding coverage via the growth of formal sector employment. It has been strongly advocated by the Health Services Research Institute and the ILO for several years. It would reduce the financial load on the UC scheme and the SSS has a substantial reserve fund.

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