

THAILAND: PUBLIC FINANCE MANAGEMENT REPORT

Discussion Paper 4:

Government Spending and Central-Local Relations in Thailand's Health Sector¹

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Summary

This discussion paper is one of five discussion papers for the Thailand Public Financial Management Report. It focuses on efficiency and equity in the financing of health services, and the evolving role of central and local government in the health sector.

The achievements of Thailand's health system

Over the last few decades, Thailand has seen significant improvements in health outcomes, reflecting sustained public investment in both infrastructure and human resources. Thailand has also succeeded in expanding the coverage of health protection schemes, culminating in the introduction of the Universal Coverage (UC) scheme in 2001. These efforts have broadened access to health services, contributed to greater and more equitable utilization, and helped reduce the financial burden and the risk of impoverishment associated with health care expenses. However, there are fewer data on broader measures of health system performance, including dimensions of quality.

Overall, available evidence suggests a mixed picture. For instance, while there has been improvement in the management of chronic conditions, a significant number of cases remain undiagnosed or untreated. Similarly, Thailand has seen recent improvement in 2-year survival rates from cancer and heart attacks, but still lags far behind Organization for Economic Co-operation and Development (OECD) countries. While the achievements of Thailand's health system are undeniable, this paper highlights three key challenges: (i) inequalities in utilization and spending; (ii) mounting cost pressures; and (iii) fragmentation of financing and unresolved issues concerning the respective roles of central and local government.

Inequalities in the health system: disparities across schemes and geographic areas

Much of the reduction in disparities in utilization, financial protection and outcomes over recent years can be attributed to the introduction of the UC scheme (and preceding subsidized schemes), which removed financial barriers to accessing health services for a significant share of the population. However, even with universal coverage, inequalities persist. For instance, this paper documents systematic differences in utilization and spending under different health financing schemes and across geographic areas. It shows that although some of the differences in utilization and spending across schemes can be explained by the age profile of members, significant variations remain even after controlling for differences. This paper also documents large variation in resources and spending across regions, both for the system as a whole and within the respective health financing schemes. While these inequalities are notable, they do not necessarily translate into inequalities in outcomes.

This paper provides evidence of regional differences in diagnosis and management of chronic disease, and of survival rates from cancer and heart attacks. These data do not suggest a strong relationship between the health system and spending on the one hand, and on quality or health outcomes on the other. Indeed, efficiency may be a greater concern, with over-provision now a growing problem in some parts of the health system. However, more evidence is needed on these issues. For example, while high levels of spending and utilization in the Civil Servant Medical Benefit Scheme (CSMBS) are often noted, it is less clear whether this is associated with better outcomes (e.g. higher cancer survival rates or improved health outcomes for the elderly). The implications of geographic disparities in spending in the Social Security Scheme (SSS) and the CSMBS also warrant further attention.

Cost pressures and their consequences

Thailand has achieved a great deal with relatively low levels of spending on health. However, the share of health spending financed by government has increased steadily, from 47% in 1995 to 75% in 2008. As a result, government health spending as a share of GDP has nearly doubled over the same period, from around 1.5% to almost 3%. The positive side of this trend is that patients are spending less on health and not jeopardizing family savings and assets to pay for health care, and there is also greater equity in access. However, these benefits imply a growing fiscal burden. In a context of limited buoyancy of government revenues, the share of the government budget allocated to health has increased steadily – a trend that is unlikely to be sustainable over the longer term. There is also growing concern that cost-pressures not accommodated by increased government spending are having adverse consequences which include hospital deficits, increased waiting times and other forms of rationing, deferral of facility maintenance, and deterioration in quality.

Pressures to increase government health spending are primarily the result of rising spending in the UC and CSMBS schemes, and are likely to persist due to rising incidence of chronic disease, population aging, continuing pressure from health workers for greater compensation, demands for expanded benefits under the respective schemes, and the rising expectations of patients. These cost pressures are well recognized by government and health sector stakeholders, and a number of measures to deal with them are already in place (e.g. progressive provider payment arrangements, technology assessment prior to expansion of benefits, and increased emphasis on prevention). However, more could be done, including greater focus on hospital efficiency and performance, as well as measures to deal with the unequal distribution of hospital facilities and personnel. But even if existing measures are sustained and deepened, pressures to increase spending are unlikely to cease, leading to debates about cost-sharing and the role of private insurance, the “right” level of spending on health, the rationing of health services, and so forth. Luckily, Thailand has strong capacity for health system analysis and active civil society engagement, as well as public dialogue on health sector issues. Thus Thailand is in a good position to manage these complex choices.

Fragmentation of financing and the future of central-local relations in the health sector

At the central level, budget financing for health is currently allocated across several schemes and agencies, including the Social Security Scheme (SSS), the Civil Servant Medical Benefit Scheme (CSMBS), the Ministry of Public Health (MOPH), other ministries with health responsibilities (the Ministry of Education, the Ministry of Defense, etc.), and the National Health Security Office (NHSO). These agencies, in turn, use a wide range of mechanisms to channel funds to providers and local governments to finance health services and related functions. Needless to say, this fragmentation inevitably leads to duplication of administrative systems and inefficiency that ranges from differences in payment, to variation in reporting and monitoring arrangements. Fragmentation also makes it challenging to redeploy human resources, finance capital expenditures, and engage in disease prevention and health promotion (P&P). These challenges can be partly overcome through improved coordination, and this is the focus of a number of current initiatives. An alternative would be merging the administration of the main schemes under a single agency or even merging the schemes themselves. However, these options present a number of challenges which have prevented progress in implementing one or the other, but both are now high on the policy agenda.

Fragmentation at the central level is compounded by a lack of clarity about the roles and responsibilities of local government in the health sector. Local governments currently account for a small share of government spending on health, and decentralization has been slower than anticipated in the Decentralization Plan. However, even in the absence of consensus on the right approach to decentralization (or even on whether decentralization should proceed), a number of agencies and local governments have been moving forward with reforms. Hence, although only

28 health centers have been formally devolved, many local governments have established their own facilities, and continue to do so. Moreover, the NHSO has delegated management of primary care funds to local contracting units, has established matching grants for health promotion, and is currently moving towards increasingly autonomous regional boards. Although these developments are significant, and although there is a case for continued piloting and experimentation going forward, it will be important for future decentralization efforts to be guided by an agreed plan or framework.

In considering future decentralization plans, there are legitimate concerns that decentralization can lead to greater fragmentation and inequality, as well as deterioration in the performance of some health functions (e.g. public health). However, these problems are not inevitable. Moreover, the Thai health system is already highly pluralistic, with a large number of local government providers and a growing private sector, so improving oversight and coordination cannot be avoided. There are also many potential benefits of decentralization, including the opportunity to strengthen synergies with other services and programs that impact health at the local level (e.g. efforts to achieve “healthy communities”, “healthy schools”, and “healthy work places”).

This paper argues for a more systematic and decisive approach to decentralization of prevention and promotion (P&P) functions, based on more detailed specification of the roles and responsibilities of central and local government. It also suggests that the current approach to primary care decentralization through voluntary transfer of health centers (HCs) has limited potential, and that there is a need to consider local management of networks of providers that combine both general hospital and primary care services. Under such a model, the small size of some Local Administrative Organizations (LAOs) becomes a significant constraint, and there is a need to consider systems and incentives for small Tambon Administrative Organizations (TAOs) or municipalities to merge or coordinate. Finally, this paper argues that, although a case can be made for decentralization of financing by expanding the role of non-ring-fenced general transfers and LAO revenues, it would be preferable to retain a strong role for central government in financing health services, although in ways that enhance local participation and flexibility. This would balance the benefits of local involvement in decision making with the need to ensure effective strategic planning, coordination, resource allocation, and performance management. Thailand’s health financing architecture, and recent experience with decentralization within the UC scheme, already provides a platform for developing such an approach.

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A. Introduction

1. **When compared regionally as well as globally, Thailand has achieved a great deal in the health sector, with relatively low levels of spending.** Over the last few decades, Thailand has seen significant improvements in health outcomes, reflecting sustained public investment in both infrastructure and human resources. Life expectancy at birth has increased and infant mortality has declined steeply, with both ahead of regional and middle income country averages (Table 1). The maternal mortality ratio (MMR) has declined from 374.3 per 100,000 live births in 1962 to only 9.8 in 2006. Total health spending (from public and private sources) in Thailand was estimated at around 4% of GDP in 2008, which is low compared to other countries in the region with comparable per capita GDP. Thailand has also succeeded in expanding coverage of health protection schemes, culminating in the introduction of the Universal Coverage scheme (UCS) in 2001. These efforts have broadened access to health services, contributed to increased and more equitable patterns of utilization, and helped reduce the financial burden and the risk of impoverishment associated with health care expenses. These efforts have also transformed institutional and governance arrangements in the health sector.

2. **While Thailand's health sector achievements are undeniable, demographic and epidemiological changes are leading to increasing cost pressures.** Both fertility and mortality have declined over the last few decades. Thailand's total fertility rate dropped from 6.4 in the 1950s to 1.8 in 2008, and is now one of the lowest in the region (and projected to decline further to 1.5 over the coming 20 years).² As a result of demographic transition, Thailand's population is rapidly aging. In 1950, with only 5% of its population aged 60 years and over, Thailand ranked as the seventh most aged country in Southeast Asia. It has now moved up to second place (after Singapore), with 10% of the population over 60. Population projections indicate that over the next 40 years, the dependency ratio of Thailand's elders will increase from 9.6 percent in 2000 to about 26.4 percent.³ When combined with lifestyle changes (associated with a rise in non-communicable diseases) and increasing consumer expectations, these changes are creating significant pressures on the health system, both in terms of financing and delivery capacity.

Table 1: Improving health outcomes

Year	Life expectancy				Infant mortality			
	Thailand	EAP	LMI	World	Thailand	EAP	LMI	World
1960	54	46	46	52				
1970	59	59	56	59	71	84	105	98
1980	66	64	60	63	46	54	84	78
1990	69	67	63	65	26	42	65	64
2000	68	70	66	67	17	33	57	55
2008	69	72	68	69	13	23	45	46
% Δ 1960/70 - 2008	-28%	-57%	-48%	-33%	82%	73%	57%	53%

Note: Data from World Development Indicators 2010. EAP is East Asia and Pacific; LMI is Lower Middle Income Countries

3. **Rising health care costs are likely to put growing pressure on the public purse.** To date, improvements in health outcomes in Thailand have been achieved with remarkable

² United Nations, World Population Ageing, 1950-2050; World Development Indicators, 2010; UNFPA, Population Ageing in Thailand: Prognosis and Policy Response, 2006.

³ UN World Population Prospect, 2010. The dependency ratio of the elderly population is the ratio of the population aged 60 or over to the population aged 15-59 (working age).

efficiency (health expenditures comprise only 4% of GDP). However, the expansion of coverage has been associated with significant increases in government spending on health (from just under 1.6% of GDP in 1994 to over 3% in 2008). More than 25 years of sustained economic growth over 7%, combined with a buoyant tax system, helped finance this expansion. However, much of the increase in government spending on health was financed through re-allocation from other sectors, with general government spending on health rising from under 10% to over 14% between 1994 and 2008.⁴ Looking ahead, sustaining more increases in government spending on health (as a share of GDP) will pose a challenge. Thailand is hoping to accelerate economic growth to levels achieved by the Asian Tigers, but with a shrinking labor force and a host of policy and institutional constraints, this will be difficult. At the same time, efforts to expand the tax share through improved tax administration and a restructuring of the tax system has had limited success to date, and with significant spending pressures in other areas, further re-allocations in favor of health may be difficult to achieve. Hence, similar to many other countries, over the coming decades, Thailand is likely to face significant dilemmas in reconciling the needs and expectations of the population with the financing capacity of the government.

4. **In order to respond effectively to emerging health system challenges, Thailand will also need to clarify central-local relations.** The 1997 Constitution decentralized responsibility for service delivery and finances from the central government to local authorities. The aim of decentralization is to increase public participation in decision making at the local level, improve service delivery by fostering greater bottom up accountability, and enhance social and economic outcomes for citizens through local economic development. However, subsequent legislation and plans have failed to clearly delineate the responsibilities of different levels of government. Nonetheless, over the last decade, there has been significant experimentation with different decentralization models and rapid growth of both locally provided services and private sector provision. As a result, there is now significant “plurality” on the delivery side of Thailand’s health system, which is not yet fully aligned with health financing arrangements nor with the way that the roles and responsibilities of different actors in the system are defined.

5. **Against this backdrop, this discussion paper focuses on efficiency and equity in the financing of health services, and the evolving role of central and local government in the health sector.**⁵ The next section (Section B) provides an overview of how the health system and key measures of its performance have evolved in Thailand. The remainder of the paper then focuses on three issues. Section C is concerned with inequalities in the health system and shows that although Thailand has achieved universal coverage, there are systematic disparities in utilization and spending, both across schemes and geographic areas. It also discusses the implications of these disparities in terms of efficiency and equity. Section D discusses how health system reforms over the last couple of decades have impacted government health spending. Although Thailand is not a “high spender” from an international perspective, government spending on health is absorbing a rising share of the budget and GDP. Cost pressures are likely to persist (or even intensify), raising difficult questions about how they can best be managed. Finally, Section E focuses on the implications of the current fragmentation of health financing, and the evolving role of central-local relations in the health sector.

⁴ Based on data on general government spending on health (i.e. including social security) from National Health Accounts, 2010.

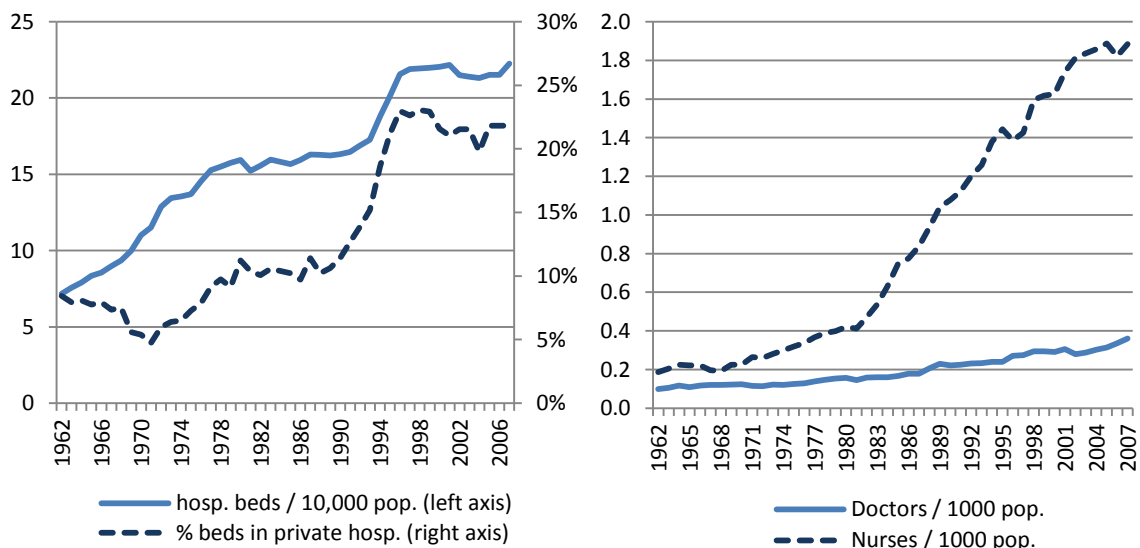
⁵ This paper is one of five discussion papers for the Thailand Public Financial Management Report.

B. Thailand's Health System: Evolution and Achievements

Expansion and improved equity of health system resources

6. Since the establishment of the Ministry of Public Health (MOPH) in 1942, both the reach of the Thai health system and government spending on health have expanded steadily. Starting from a low base, the government established provincial hospitals nationwide in the 1950s, followed by district hospitals in every district by the 1980s, and health centers at sub-district (Tambon) level in the 1990s. As a result of the expansion of the public health system, as well as parallel growth in the private hospital sector, the number of hospital beds per 10,000 population more than tripled between the early 1960s and mid-2000 (Figure 1), and the expansion of the private sector, in particular during the 1990s, laid the foundations for the growth of medical tourism over the last decade (see Box 1). The health workforce has also expanded considerably, with the doctor-to-population ratio increasing nearly fourfold and the nurse-to-population ratio increasing tenfold. Despite these increases, the health workforce is relatively small, considering Thailand's level of GDP.

Figure 1: Health system resources have expanded over the last 50 years



Source: Supon Limwattananon and Viroj Tangcharoensathien. "Tracking progress in universal health access: Monitoring effectiveness of universal coverage in Thailand." 2010 Prince Mahidol Award Conference, Bangkok, 29 January 2010.

Box 1: How is medical tourism impacting the health system? *

Medical tourism has been actively promoted in Thailand since 2003, with tax incentives to local and foreign investors.** At one level, the policy has been a success: the estimated number of foreign patients increased from 550,161 in 2001 to 1,249,984 in 2005, and medical tourism has continued to expand since then. Patients are lured by sophisticated infrastructure, qualified and service-oriented health professionals, and good value for money relative to other destinations in the region. Revenues from medical tourism have been forecast to reach US\$4.2 billion in 2012. But medical tourism also entails risks, and many health sector stakeholders in Thailand have expressed concern about the steady growth of foreign patients.

The detractors of medical tourism typically point to four possible adverse impacts on the health system: (i) an internal brain drain, in particular of experienced specialists, to high-end private hospitals; (ii) rising salary expectations which impact the public sector wage bill; (iii) increased difficulties in attracting staff to rural postings where earning opportunities are less; and (iv) expansion of high-end, technology-intensive care in the private sector, with possible spill-over to clinical practice and rising public sector costs. Given the many other changes that have been taking place in the health sector and the broader labor market over the last decade, it is difficult to establish whether these adverse impacts are indeed materializing. Nonetheless, there are a number of studies that point to growth in the number of doctors resigning from the public sector, with most moving to the private sector.*** This includes experienced specialists that leave public hospitals and teaching positions.

Of course, even if there are adverse impacts on the public health system, these impacts must be weighed against the potential benefits of medical tourism. These include economic benefits in terms of employment and government revenue, but also positive impacts on the health system through investments in facilities and training, increased competition, and strengthened accreditation and quality standards. As with the negative consequences, these benefits are not easy to estimate, and they are by no means assured. Moreover, given that adverse impacts on the health system are most likely to impact the rural population and users of the public system, there are distributional issues to consider.

While it may be impossible to determine the relative costs and benefits of medical tourism with any degree of certainty, it will be important to sustain efforts to assess and debate the positive and negative impacts of medical tourism. At the same time, there is also a need to look for ways to mitigate possible negative impacts on the health system – e.g. by ensuring that sufficient health professionals are trained; promoting stronger public-private linkages, including in the area of medical education, and so forth.

* For details, see Nonglak Pagaiya and Thinakorn Noree, *Thailand's Health Workforce: A Review of Challenges and the Experiences*, 2009, and Kanchanachitra et al. 2011. *Human resources for health in southeast Asia: shortages, distributional challenges, and international trade in health services*. *The Lancet*.

** Pachanee, C and Wibulpolprasert, S (2006) *Incoherent policies on universal coverage of health insurance and promotion of international trade in health services in Thailand*. *Health Policy Plan*. 2006 Jul;21(4):310-8.

*** Thammarangsi, T (2005) *Equity distribution of doctors under the national universal coverage scheme*. Bangkok.

7. **The expansion of health system resources has been successfully focused on under-served areas, contributing to a reduction in regional disparities in the availability of services.** Through a combination of targeted public investment and innovative policies to promote deployment of health workers to rural and under-served areas, Thailand has steadily reduced regional gaps in the density of both nurses and doctors (Figure 2).⁶ For instance, in 1979, the population-to-nurse ratio was 2.6 times higher in the Northeast than in the Central region, and over 18 times higher than in Bangkok; by 2005, these ratios had been reduced to 1.7 and 3.4, respectively.

⁶ Thailand's Health Workforce: A Review of Challenges and Experience. Nonglak Pagaiya and Thinakorn Noree, International Health Policy Program, Ministry of Public Health. August 2008.

Figure 2: Regional disparities in health system resources have declined



Source: Pagaiya, N, et al (2008) *Thailand's Health Workforce: A Review of Challenges and Experiences. & Thailand Health Profile.*

Health financing reform and the expansion of coverage

8. **The financing of health services has long relied on cost-sharing by patients, but Thailand has made steady progress in reducing financial barriers.** As government expanded the health facility network and the health workforce in the 1970s and 1980s, government spending on health also increased. However, the budget primarily financed salaries, some running costs, and capital expenditures, with the remaining costs financed through out-of-pocket payments by patients. Over time, various pre-payment mechanisms have helped improve access and financial protection. For formal sector workers, coverage was initially introduced for civil servants in 1980 and later, in 1990, for private sector employees. Since then, the Civil Servant Medical Benefit Scheme (CSMBS) and the Social Security Scheme (SSS) have gone through a number of changes, but the central features of the programs remain intact (see Box 2).

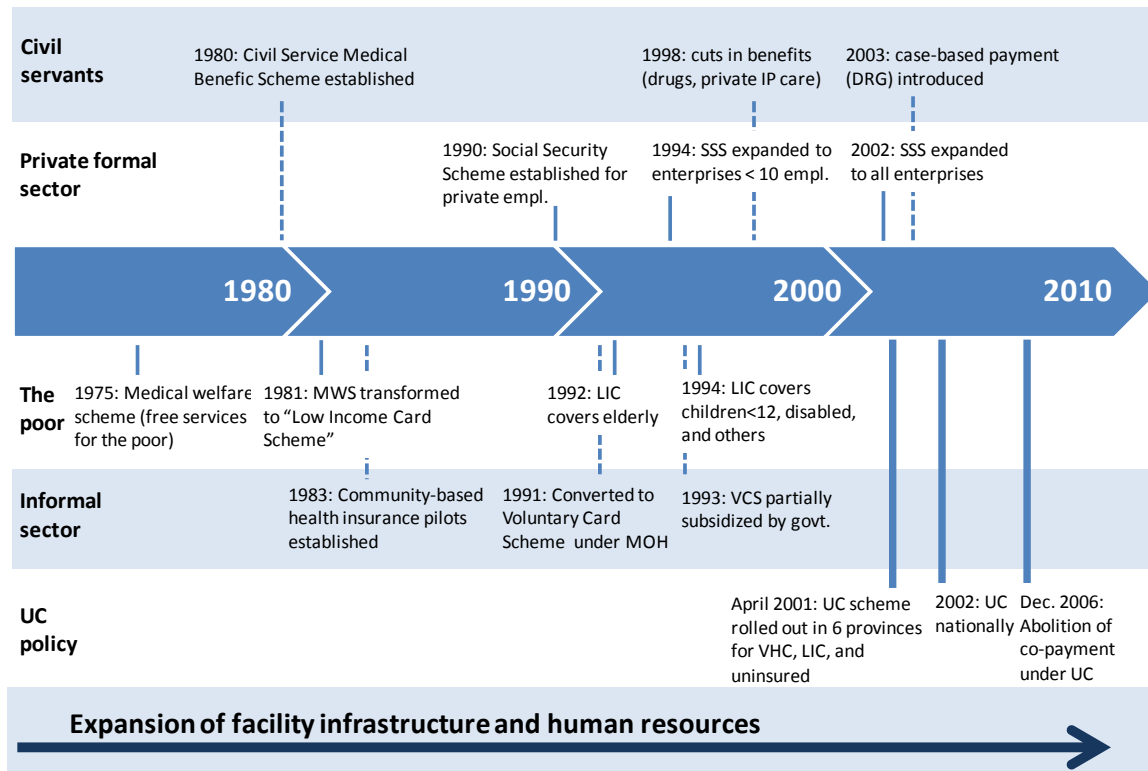
Box 2: Overview of health financing schemes in Thailand

	<i>Civil service scheme</i>	<i>Social Security scheme</i>	<i>UC scheme</i>
<i>Management</i>	<i>Comptroller General's Department, MOF</i>	<i>Social Security Office (agency under the Ministry of Labor)</i>	<i>National Health Security Office (autonomous agency overseen by board)</i>
<i>Beneficiaries</i>	<i>Government employees, dependents, government retirees</i>	<i>Private sector employees (enterprises with 10 or more employees, but <u>not</u> retirees or dependents)</i>	<i>Population not covered by CSMBS or SSS</i>
<i>Pop. coverage</i>	<i>8%</i>	<i>15%</i>	<i>75%</i>
<i>Benefits</i>	<i>Comprehensive (no preventive care)</i>	<i>Comprehensive, but some exclusions (infertility, long-term hospitalization, cosmetic surgery, etc.); includes sickness benefits.</i>	<i>Comprehensive, but some exclusions (similar to SSS, except no cash benefit)</i>
<i>Financing source</i>	<i>Government budget</i>	<i>Tri-partite: employer, employee & government pay 1.5% of salary, max 15,000 Baht) for sickness, maternity, invalidity</i>	<i>Government budget</i>
<i>Providers</i>	<i>Public providers, except emergency. or with higher copay</i>	<i>Public and private hospitals (>100 beds); 50% private</i>	<i>Primarily public, but also private</i>
<i>Provider payment</i>	<i>OP: Fee-for-service IP: DRGs since 2 yrs</i>	<i>Capitation – risk adjusted for chronic disease + extra payments for high-cost</i>	<i>OP: Capitation IP: DRGs + disease mgt. programs</i>

9. **Coverage for the informal sector and the poor has also expanded.** Coverage of formal sector workers only recently exceeded 20% of the population. For the remainder of the population, efforts to provide coverage started with the introduction of a Medical Welfare Scheme to finance services for the poor in 1975. Over the following 25 years, coverage of the subsidized scheme (later called the “Low Income Card” (LIC) scheme) was expanded by including the elderly, children and other groups. Parallel efforts were also made to expand coverage for the informal sector through voluntary contribution schemes. The various schemes for the poor and informal sector were eventually rolled into a national initiative, the Universal Coverage scheme, which finances health services for everyone not covered by the CSMBS or the SSS.⁷

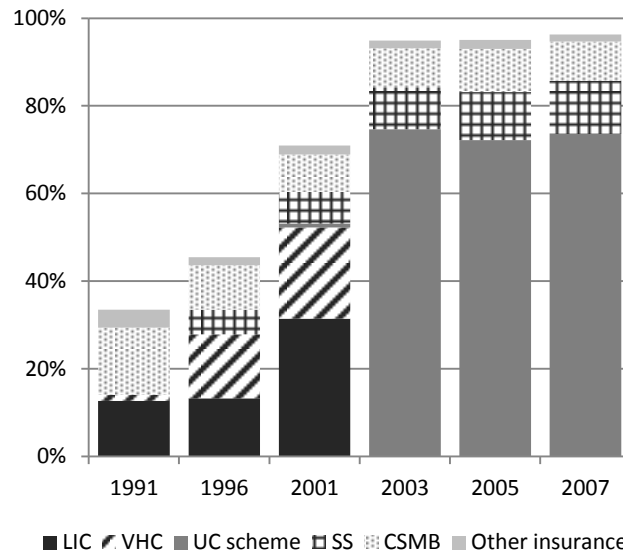
⁷ This scheme was commonly known as the “30 Baht Scheme” until the copayment was abolished in 2007.

Figure 3: The evolution of health financing arrangements in Thailand



10. **Health financing reforms over the last 35 years have been associated with steady expansion in the share of the population covered by some health protection scheme.** Even before the introduction of the UC scheme, coverage of the Low Income Card (LIC) and Voluntary Health Card (VHC) schemes expanded steadily (Figure 4). However, in 2001, a coverage gap of nearly 30% remained. This gap has now been largely closed; in 2007, only 4% of the population was not covered by the three main schemes. This group included people who are covered by other health insurance schemes, including the veterans' scheme, the private school teachers' scheme, the state enterprises' scheme, and private insurance. It also included some ethnic minorities in remote parts of Thailand without Thai identity cards. However, the Ministry of Public Health (MOPH) established a separate arrangement to cover this last group in 2010, and today less than 0.50% of the Thai population lack health insurance or health protection coverage.

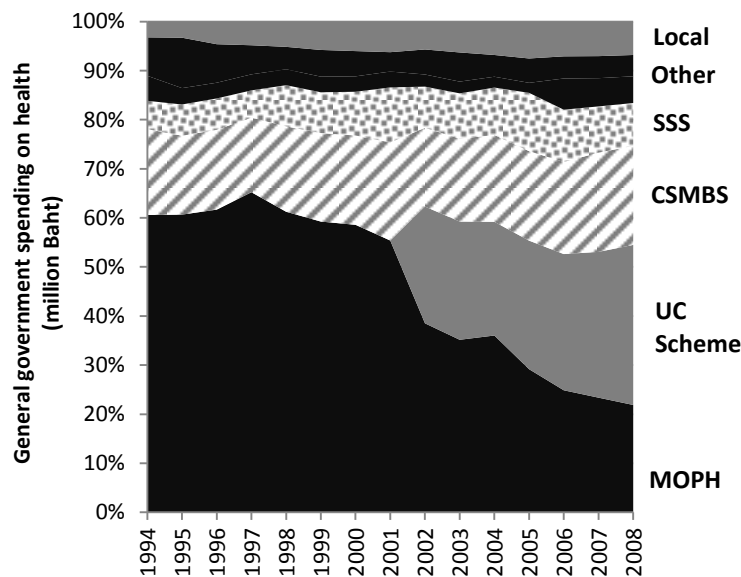
Figure 4: The share of population with health protection coverage has increased



Source: Data from National Health and Welfare Surveys.

11. **Reflecting significant health financing reforms over the last couple of decades, the central government financing mix has changed, but remains fragmented.** The most significant change came with the introduction of the 30 Baht / UC scheme, which has expanded significantly since 2001 (Figure 5). As a result, the share of government spending for the UC scheme increased from less than 1% in 2001 to 32% in 2008, while the MOPH share declined from 55% to 22% over the same period. Meanwhile, the shares of other financing sources have remained largely unchanged. Needless to say, the shift in financing has had profound institutional implications, with much of the financing for service delivery shifting from the MOPH to the NHSO, with very different governance arrangements and financing modalities. Moreover, while the health financing reforms over the last few decades have led to some consolidation of programs and schemes, central financing arrangements remain highly fragmented, with potential implications for both efficiency and equity.

Figure 5: The financing mix of central government spending has been changing



Source: Thai National Health Accounts (2010)

12. **Although the Thai health system is highly centralized, local governments account for a small but rising share of public expenditure on health.** There are about 7,854 Local Administrative Organizations (LAOs) in Thailand, categorized into 75 Provincial Administration Organizations (PAOs), 24 City Municipalities, 142 Town Municipalities, 2,007 Tambon Municipalities, 5,770 Tambon Administrative Organizations (TAOs), as well as two special administrative regions (Bangkok Metropolitan Administration (BMA) and Pattaya City).⁸ The LAOs, with directly elected local councils, indirectly elected council chairs and directly elected chief executives, play an increasingly important role in Thailand. Nonetheless, under authority of the Ministry of Interior (MOI) central authorities maintain a chain of command down from the provincial level (Provincial Governor and provincial administration), through the district (District Officer) and Tambon (Kamnan), down to the village level (Village Head). This has resulted in a complex dual system of administration at the subnational level. Although the Decentralization Act envisages extensive decentralization, with around 30 health functions and duties assigned to LAOs, the current role of the LAOs varies significantly. Most LAOs provide some disease prevention and health promotion (P&P) services, many municipalities have long provided primary care services, and some perform a more extensive range of functions. Although LAO spending currently accounts for only a small share of total health spending (around 5%), there is already a significant lack of clarity about the roles and responsibilities of different levels of government in the health sector. As discussed further in section E of this paper, this issue is likely to become more of a problem in the future.

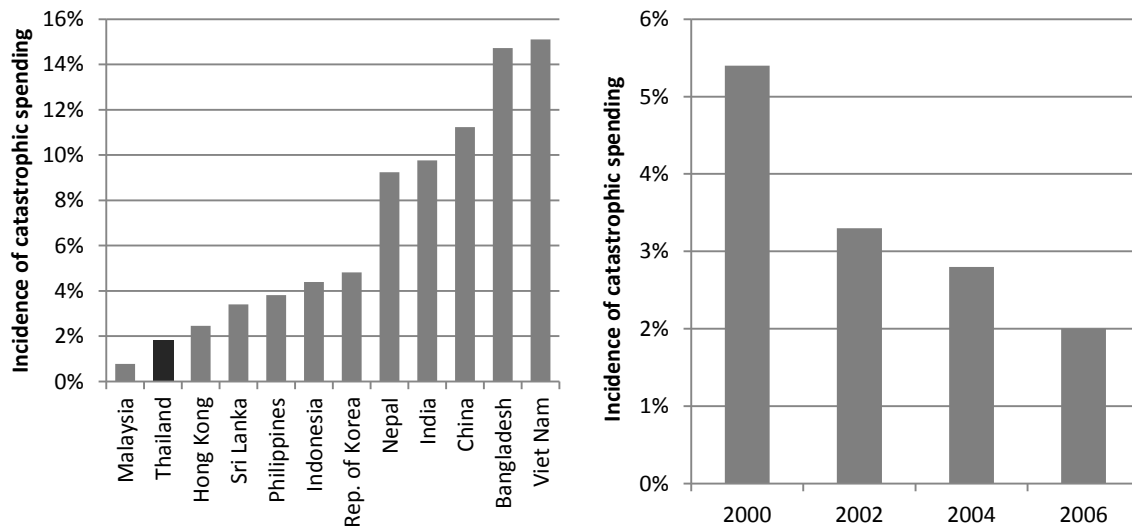
⁸ The number of LAOs as of April 2010. While PAOs are responsible for entire provinces, municipalities are in charge of defined urban areas. There are three categories of municipality: city, town and tambon. The minimum population size of a City Municipality and a Town Municipality is 50,000 and 10,000, respectively. The minimum population size of a Tambon Municipality is unspecified. The minimum population size of a TAO is 2,000, with the exception of areas with geographic challenges, e.g. islands. TAOs are theoretically local authorities in rural areas. However, with rapid urbanization, today many TAOs are semi-urban.

Health system performance

13. **The steady expansion of service availability, combined with the broadening of health protection coverage, has been associated with an increase in utilization of health services.** One important measure of health system performance is the extent to which individuals who need health services are able to access them. In the case of some preventive health services, such as immunizations and antenatal care, all children / women should be covered, so need is easy to establish. On this front, Thailand has long performed well. For instance, immunization rates for most vaccines have been over 90% for more than 20 years, with only small differences across socioeconomic groups. Antenatal care coverage has also long been both high and equitable. Results are harder to show when it comes to curative health services. However, available evidence shows that both inpatient (IP) and outpatient (OP) utilization rates have increased steadily over the last couple of decades, and that disparities across socioeconomic groups have declined.

14. **The financial burden faced by households in accessing health services – another important measure of health system performance – has also declined over time.** Even before the introduction of UC, the incidence of catastrophic spending (health expenditures comprising a “high” share of household consumption or income in a given year) in Thailand was among the lowest in the region, and it has fallen steadily since early 2000 (Figure 6).

Figure 6: Thailand has comparatively low incidence of “catastrophic” health expenditures

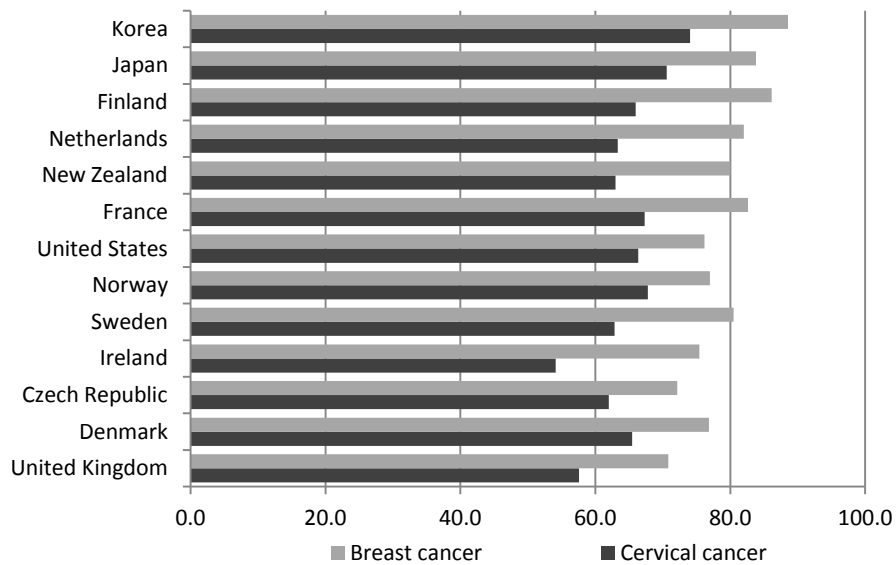


Note: International data (left panel) are from van Doorslaer, E., O. O'Donnell, R. P Rannan-Eliya, A. Somanathan, S. R Adhikari, C. C Garg, D. Harbianto, et al. 2007. Catastrophic payments for health care in Asia. Health Economics 16, no. 11: 1159–1184. Data for Thailand are from 2002; data for other countries are also from the early 2000s. Catastrophic spending is defined as health spending in excess of 25% of non-food spending. Trend data from Thailand (right panel) is from Prakongsai et al. The equity impact of the Universal Coverage Policy: Lessons from Thailand, Advances in Health Economics and Health Services Research, Vol. 21, 57–81. 2009; the estimate is based on a threshold of 10% of total consumption.

15. **There is less evidence about the extent to which the health system has contributed to improved health, but data indicate recent improvement.** Recognizing the complex determinants of health outcomes such as mortality rates or life expectancy, and the inherent limitations of crude indicators of health services utilization, efforts to assess health system

performance increasingly focus on whether individuals are able to access appropriate care for specific conditions, and the ability of the health system to prevent avoidable morbidity and mortality (see Box 3). Thailand has seen steady improvement since 2006 in the hospital quality indicators used across many countries. These include standardized hospital mortality rates and survival rates over time for acute myocardial infarction (heart attack), stroke, breast cancer, and cervical cancer.⁹ However, although comparisons are not straightforward, outcomes in Thailand still fall well short of those in the OECD. For instance, while 2-year survival rates for breast and cervical cancer in Thailand are around 0.65 and 0.5 respectively, 5-year survival rates in OECD countries are in the range of 0.7-0.88 and 0.55-0.75 for the same conditions (Figure 7)

Figure 7: 5-year cancer survival rates in selected OECD countries



Source: OECD HCQI Data 2009. Survival rates are age standardised to the International Cancer Survival Standards population.

16. **Measures of primary health care performance in preventing and managing chronic illness show a mixed picture.** An international study¹⁰ compared Thailand in 2004 with three high-income countries and two middle-income countries on the percentage of patients diagnosed with diabetes that were effectively managed for diabetes, hypertension and hypercholesteremia. The study showed that Thailand and the other middle-income countries diagnosed a much smaller share of patients than the upper income countries. Moreover, only around 10% of survey respondents with diabetes conditions have them managed (and only 2% are effectively managed). While there were significant gaps in diagnosis and management of chronic conditions in all seven countries, in 2004 Thailand had lower outcomes than the other countries (Figure 8).¹¹ However,

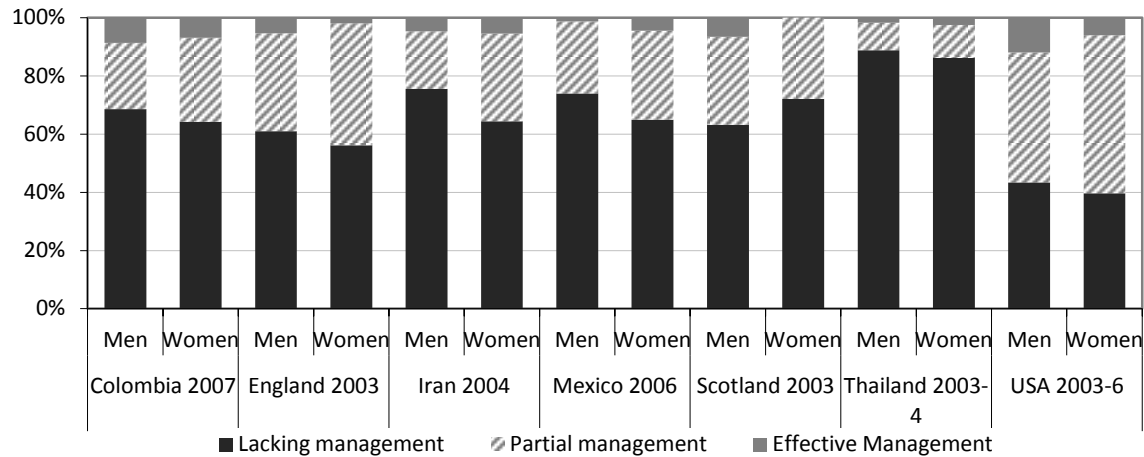
⁹ HISRO. 2010. Performance Indicators of Health Care System 2009. Unpublished PowerPoint presentation.

¹⁰ E. Gakidou et al., “Management of diabetes and associated cardiovascular risk factors in seven countries: a comparison of data from national health examination surveys,” *Bulletin of the World Health Organization* 89, no. 3 (2011): 172–183.

¹¹ Focusing on specific conditions, the study found that with the exception of the US, Thailand performed as well or better in controlling hypertension compared to the other countries, but Thailand performed relatively poorly in controlling diabetes.

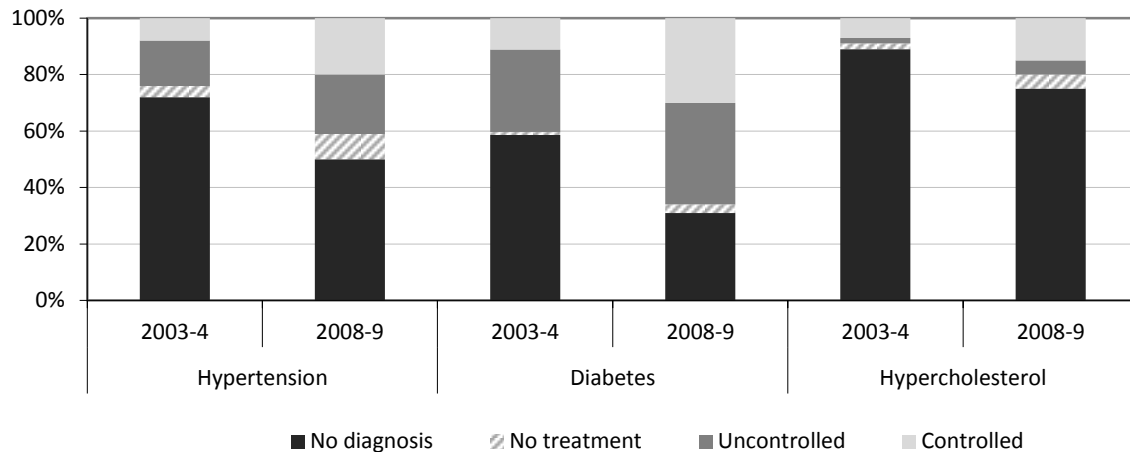
since 2004, Thailand has made significant improvements in diagnosis and treatment rates for diabetes and hypertension, while some improvement has also been achieved in diagnosing and treating hypercholesterolemia (Figure 9).¹²

Figure 8: Few chronic disease cases were effectively managed in 2004



Note: Gakidou et al. 2011, Management of Diabetes in Seven Countries. The study focused on management of diabetes, hypertension and hypercholesterolemia in diabetes patients (aged 35-64). Lacking management means that the patient is undiagnosed or untreated for one or more of the three conditions; partial management means ineffective control of one or more of the three conditions; effective management means effective control of all existing conditions.

Figure 9: Chronic disease management has improved, but gaps remain



Source: Aekplakorn (2010): Analysis of Health Exam Survey 2003-2004 and 2008-2009. For individuals under treatment, "controlled" status is based on test values (for diabetes, fasting plasma glucose <130 mg/dL; for hypertension, SBP<140 and DBP<80 mmHg; for hypercholesterolemia, total cholesterol <240 mg/dL). For patients under treatment that do not meet these levels, the condition is considered "uncontrolled".

¹² HISRO. 2010. Performance Indicators of Health Care System 2009. Unpublished PowerPoint presentation.

Box 3: Evolving approaches to measuring health system performance

The last 20 years have seen accelerating development in the measurement of health system performance in OECD countries. Past fatalism about the non-measurability of health systems has given way to major investment in developing increasingly sophisticated and complex metrics to capture the multiple dimensions of health system performance. Where past attempts to compare health systems focused on indicators for inputs, outputs and general population health (e.g. life expectancy or infant mortality rates), there is now greater focus on measures of the contribution that health services or the health system makes to improving health outcomes and the in-patient experience of health care.

In a growing number of disease and health care areas, we now have some understanding of the causal linkages between more readily measured and managed processes and practices on the one hand, and health outcomes on the other hand. Indicators cited in this report such as hospital admission rates for conditions that may be managed in ambulatory care, and indicators that compare prevalence, diagnosis, and treatment data for particular conditions, are good examples of this development. The scientific basis is improving for constructing performance indicators and for adjusting performance measures to enable valid comparisons across institutions, populations and geographic areas. Many countries are using sets of measures to monitor the performance of health professionals, healthcare institutions, health insurers or purchasers, and sub-national and national health systems. Increasingly, balanced metrics are used within provider payment systems to motivate better performance across the multiple objectives of health policy.

These developments in health systems measurement and international comparisons of performance have had a positive impact on public and political debate about health systems expenditure and management in some countries. In the UK, for example, previous assessments that showed good population health outcomes, with relatively low expenditure by international comparison, were challenged by new evidence showing that outcomes attributable to health care (such as survival rates following diagnosis of cancer or coronary heart disease) lagged behind many upper income countries. These findings helped to stimulate political and managerial impetus to increase investment in health and to implement monitorable service delivery frameworks to improve health systems performance in priority disease areas.

Also over the past 10-20 years, there has been a trend towards public dissemination of performance information and inviting citizen and patient participation in measurement to improve services. This trend responds to public demand for increased transparency, accountability and application of the principles of democracy in health. There are potential pitfalls, however: public disclosure could make professionals and managers hesitant to report accurately and there can be tensions between the information needs for expert assessment and democratic debate. But there are good examples of health system leaders who have taken the opportunity through measurement and dissemination of evidence to engage the public, patients, news media, and politicians in efforts to improve health and the health system.

Thailand is among countries in which some of these new methods of performance measurement and comparison have been carried out for research and experimental purposes. This paper draws on some of this research. But health system and health institution performance measurement have not yet been fully routinized. Moving to routine and systematic performance measurement requires that all the parties concerned accept not only the measures used, but also the means of disseminating the results.

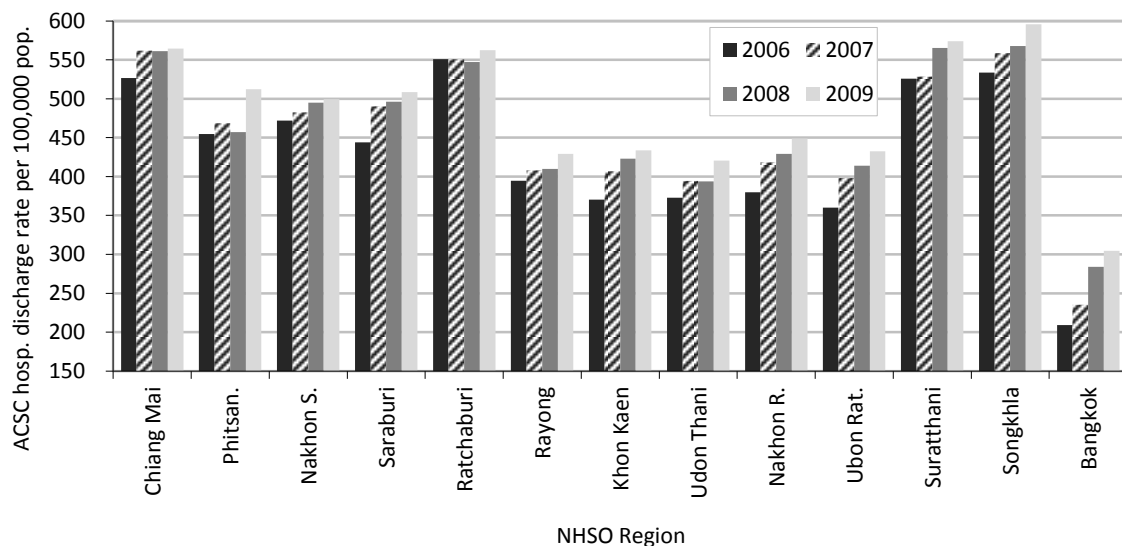
Source: Measuring Up: Improving Health System Performance in OECD Countries. OECD 2001

17. **Measures for the performance of the primary and ambulatory care system present a mixed picture.** The performance of primary and ambulatory care can be gleaned from looking at the volume of hospital admissions for six conditions that can, and should, be prevented or managed in outpatient settings: hypertension, ischaemic heart disease, diabetes, asthma, chronic obstructive pulmonary disease (COPD), and epilepsy. Hospital admissions rates for these ambulatory care sensitive conditions (ACSC) are increasingly used to monitor the effectiveness of primary and ambulatory health care in keeping patients out of hospital. Figure 10 shows the trend in ACSC hospital discharges, which has been rising since 2006, and the variation in ACSC rates across the NHSO's regions.¹³ These data are cause for concern. Among others, the

¹³ Limwattananon S. (2010) analysis of database of the CSMBS, SSS and UCS for National Health Care Performance Indicators Project, Health Insurance System Research Office (HISRO).

capitation payment system for primary care and specialist outpatient services by the NHSO and the SSS may be a financial incentive to admit patients who could be treated more efficiently in ambulatory settings. The NHSO and health research institutions in Thailand are exploring alternative payment methods for ambulatory care that could help to address this concern. Disaggregated data show that asthma admissions are declining, but rising admission rates for diabetes and COPD are responsible for most increases in hospital admissions. Further research and analysis is needed to explain regional differences. The lower (though rising) ACSC rates are found both in Bangkok, where per capita health expenditure and capacity are relatively high, and in the Northeast, where per capita health expenditure and capacity are relatively low.

Figure 10: Trends and variation in hospital discharges for ambulatory care sensitive conditions



Source: Limwattananon S. (2010) Analysis of database of the CSMBS, SSS and UCS for National Health Care Performance Indicators Project, Health Insurance System Research Office (HISRO)

18. **In summary, Thailand’s health system can be credited with significant achievements, but as in most health systems, there is variation in performance.** Recent decades have seen a steady expansion in access to health services, increased utilization, and improved financial protection. There are less data, however, on other measures of health system performance such as client satisfaction, and the quality and appropriateness of care, although available evidence suggests that the health system scores relatively well on these fronts too. Nonetheless, the system also faces some significant challenges. The next section will discuss the issue of inequalities, focusing in particular on geographic disparities and differences in utilization and spending across schemes.

C. Inequalities in the Health System

19. **There has been significant progress towards equality in the Thai health system, but challenges remain.** As discussed in the introductory section of the paper, disparities across geographic areas and socioeconomic groups in access to health care, financial protection and health outcomes have declined steadily over time. Much of this progress can probably be attributed to the introduction of the UC scheme (and the subsidized schemes that came before it), which removed financial barriers to accessing health services for a significant share of the population. However, inequalities can persist even with universal coverage. In part, these

inequalities may be rooted in broad household- and community-level determinants of health and health service utilization. But there may also be factors more directly related to the health system, including systematic differences in the benefits provided under different health financing schemes, and geographic disparities in utilization and outcomes rooted in the availability and quality of health services. This section will discuss some evidence on these issues, and the potential implications for health outcomes of remaining disparities.

Disparities in spending and utilization across schemes

20. **One often noted dimension of disparity is across schemes, with significantly higher utilization rates in the CSMBS.** Indeed, as can be seen from Table 2 below, the OP utilization rate is 60% higher for CSMBS than for UC members, the IP utilization rate is 45% higher, and expenditures per beneficiary are over 500% higher. The differences are even greater when compared with SSS members.

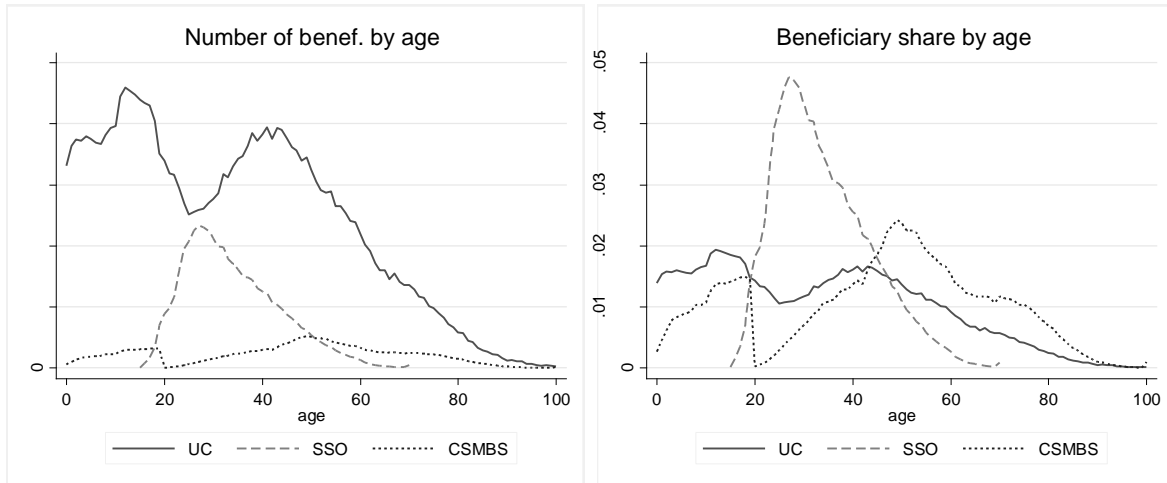
Table 2: Utilization and spending varies significantly across schemes

	UC	SSS	CSMBS
OP utilization rate	3.12	2.68	4.91
IP utilization rate	0.11	0.05	0.16
Expenditure per beneficiary	2,278	2,280	14,239

Note: Estimates based on data from the Health Insurance System Research Office (2011) which was compiled from the database of the CSMBS, the SSS and the UCS.

21. **In part, differences in utilization and spending across schemes are the result of differences in the age profile of members.** This can be seen clearly from Figure 11 below. It shows that SSS members are predominantly in the 20-40 year range. In contrast, both UC and CSMBS membership is bi-modal, with significant numbers of members under 20, as well as those who are middle-aged or elderly. One of the main differences between the UC and the CSMBS members is the significant hump of older members (45-70 years) in the CSMBS.

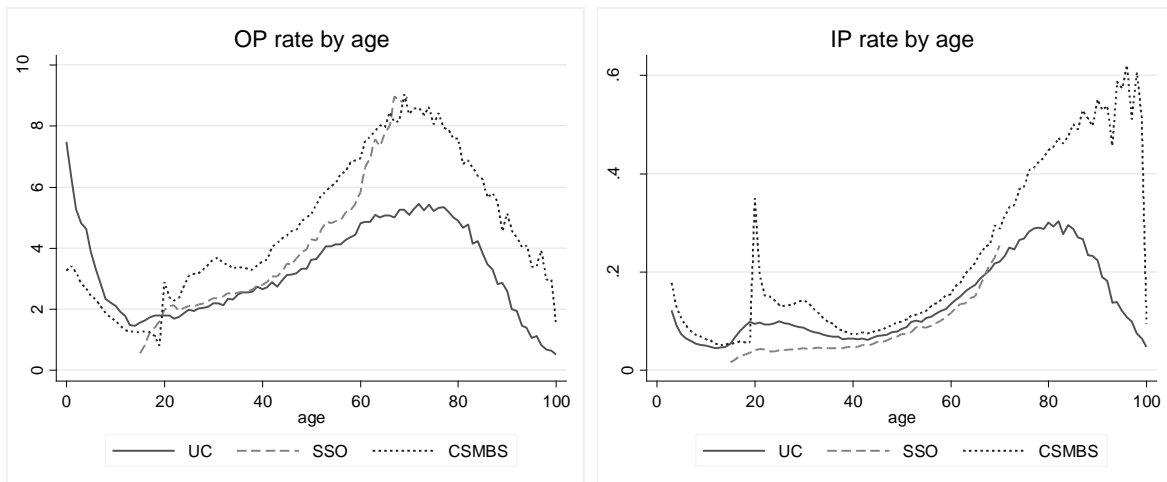
Figure 11: There are large differences across schemes in the age profile of members



Note: Estimates are based on data from the Health Insurance System Research Office (2011) which was compiled from the database of the CSMBS, the SSS and the UCS

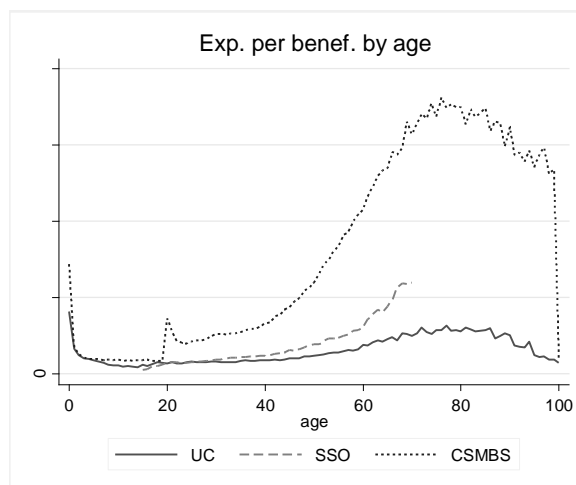
22. **While the age profiles of the different schemes are markedly different, these differences do not fully explain the disparities in utilization.** Although OP utilization rates for young UC members is actually higher than for young CSMBS members, utilization by CSMBS (and SSS) members is significantly higher for the middle-aged and the elderly (Figure 12). This difference is even starker in the case of IP care, with substantially higher IP rates among CSMBS members over 60. Of course, differences in utilization for different age groups, combined with differences in the content and cost of care, contribute to large differences in expenditures across the schemes (Figure 13). Hence, except for the under-20s, expenditure per beneficiary in the CSMBS is several times higher than in both the SSS and UC schemes.

Figure 12: Utilization by the elderly is higher in the CSMBS and the SSS than in the UC



Note: Estimates based on data from the Health Insurance System Research Office (2011) which was compiled from the database of the CSMBS, the SSS and the UCS

Figure 13: Spending per beneficiary is higher in the CSMBS, in particular for the elderly



Note: Estimates based on data from the Health Insurance System Research Office (2011) which was compiled from the database of the CSMBS, the SSS and the UCS

23. **While it is important to acknowledge differences in the demographic profile of the different schemes, these do not fully account for differences in utilization and spending.** This can be seen by standardizing both utilization and spending, with reference to either the SSS or the UC population (Table 3). Doing so shows that the gaps shrink, but spending per beneficiary in the CSMBS is still around 4 times higher than in the UC, and 2.8 times higher than in the SSS. These disparities clearly reflect differences in both utilization rates and the content of care.

Table 3: Standardized utilization and expenditures by scheme

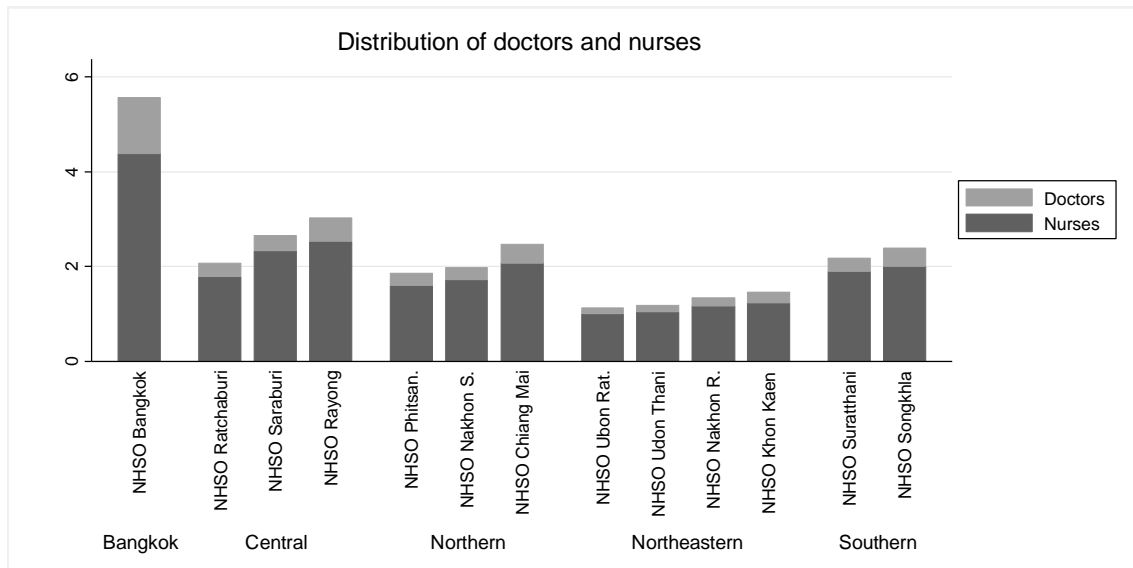
	UC	SSS	CSMBS	CSMBS / UC	CSMBS / SSS
OP utilization rate					
Uncorrected	3.12	2.68	4.91	1.6	1.8
Age standardized (SSS)	2.44	2.68	3.57	1.5	1.3
Age standardized (UC)	3.12		3.85	1.2	
IP utilization rate					
General	0.11	0.05	0.16	1.4	3.3
Age standardized (SSS)	0.08	0.05	0.12	1.4	2.4
Age standardized (UC)	0.11		0.16	1.5	
Expenditure per beneficiary					
General	2,278	2,280	14,239	6.3	6.2
Age standardized (SSS)	1,757	2,280	6,493	3.7	2.8
Age standardized (UC)	2,278		9,350	4.1	

Note: Calculation by the authors based on data from the Health Insurance System Research Office (2011) which was compiled from the database of the CSMBS, the SSS and the UCS

Geographic variation in health system resources, spending, and utilization

24. While the issue of disparities in utilization and spending across schemes has received significant attention, there is less evidence about geographic disparities in spending and health system resources. Despite notable reductions in regional disparities in infrastructure and staffing over the past few decades, significant variation persists. Figure 14 shows that Bangkok remains an outlier (in part reflecting concentration of referral facilities, but also the location of the MOPH itself), and that the Northeast remains underserved relative to other regions.¹⁴ The disparities in staffing are largely reflected in the distribution of MOPH spending, in which salaries make up a large part (Figure 15). The allocation of MOPH infrastructure and personnel resources financed from the budget are based on historical patterns that are not fully aligned with current population distribution and need.

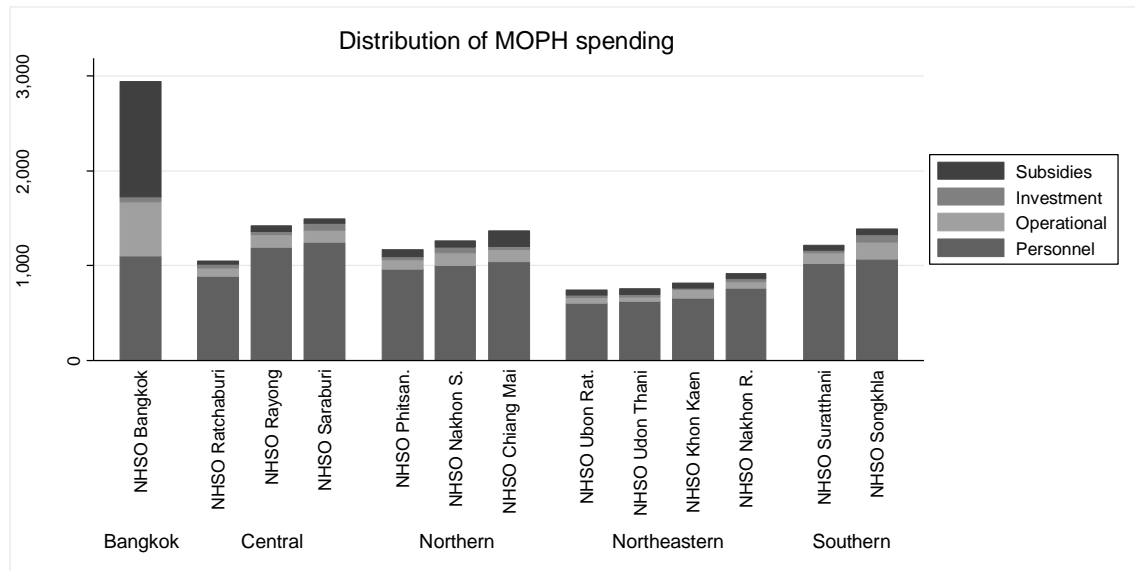
Figure 14: There are large disparities across regions in the distribution of health workers



Source: data on health workers are from the UNDP Thailand Human Development Report 2009

¹⁴ The NHSO has established 13 regional units (including NHSO regional offices and boards) in order to facilitate coordination. The regions have been structured to reflect patterns of patient flows due to geographic proximity or referral arrangements (see map in the appendix). Recently, there has been initiative to allow pilot NHSO regions more autonomy in financing decisions and management. Note that the NHSO regions cannot be straightforwardly mapped to the five main geographic regions, and that the NHSO regions are different from the MOPH regions. In the case of the NHSO Nakhon Sawan, Nonthaburi is mapped to the Central region, while the other provinces (Kamphang Phet, Nakhon Sawan, Phichit, and Uthai Thani) are mapped to the Northern region. For the purpose of the analysis that follows, all the provinces in NHSO Nakhon Sawan are mapped to the Northern region.

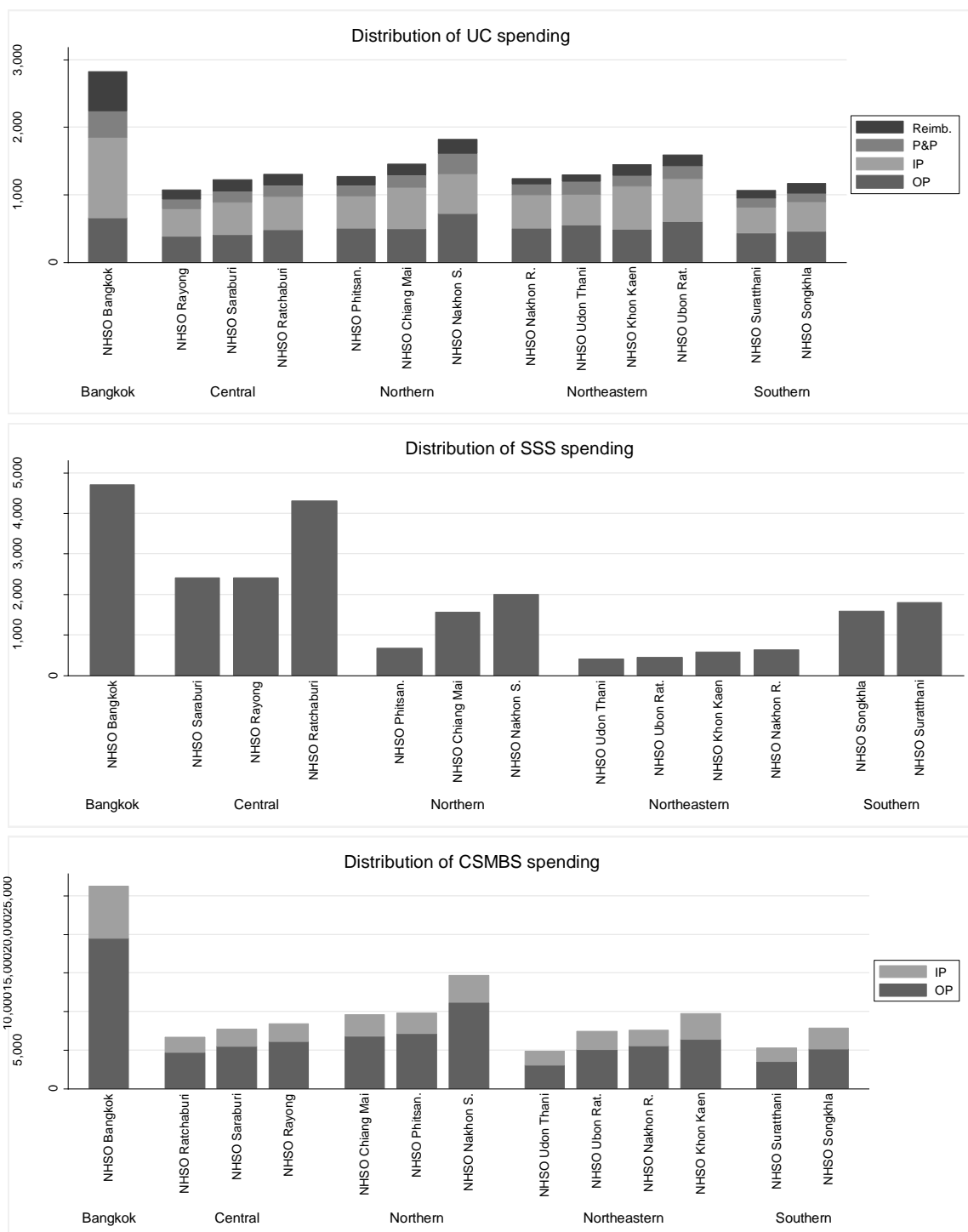
Figure 15: The distribution of staff is reflected in patterns of MOPH spending



Source: data on MOPH spending is from the Comptroller-General Department, MOF, 2010

25. **Patterns of MOPH spending are driven primarily by the distribution of the health workforce. The distribution of spending by the SSS and the CSMBS is determined largely by patterns of utilization and the content of care provided, while UC spending is relatively equitable.** For all the schemes, spending per beneficiary is significantly higher in Bangkok than in other regions. This reflects, at least in part, the fact that patients from other regions are referred to specialists located in Bangkok (Figure 16). Outside Bangkok, there is little inequality in UC spending across regions, with most of the NHSO budget allocated according to a population based formula. Additionally, the NHSO uses a capitation formula for allocating primary health care and P&P funds at the local level. However, there is notable inequality in the SSS and, to a lesser extent in the CSMBS. In the case of the SSS, the largest disparities in spending are across broad regions, with particularly low spending in the Northeast.

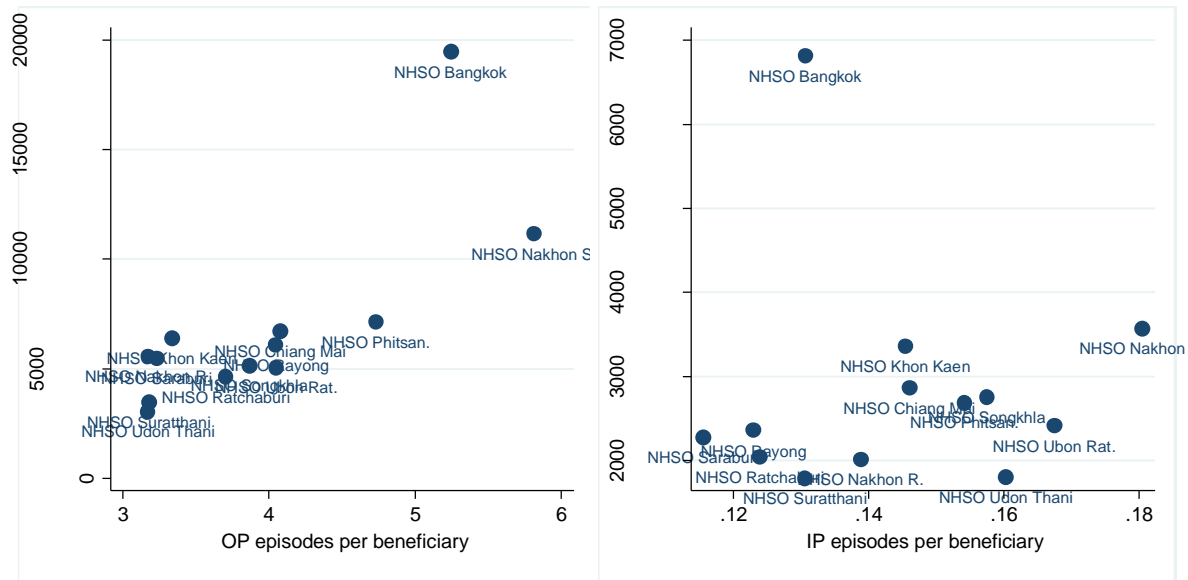
Figure 16: Regional variation in spending per beneficiary is low in the UC, but higher in SSS and CSMBs



Source: Data on UC spending is from the National Health Security Office (2011); data on SSS spending is from the Health System Research Institute, 2010; data on CSMBs spending is from the Central Office for Healthcare Information and the Comptroller-General Department, MOF, 2011

26. **Data from the CSMBS suggest that differences in spending levels across regions are driven primarily by differences in utilization rates.** In the case of OP services, annual utilization rates range from just over 3 to nearly 6, with spending per beneficiary closely related to the volume of services (Figure 17). The pattern is less clear for IP services. Again, there is significant variation across regions in spending per episode, but spending per beneficiary appears to be driven more by the mix of services and the cost per episode, than by volume.

Figure 17: Higher spending per beneficiary is in part the result of higher utilization (CSMBS 2009)



Note: Analysis based on data provided by the National Health Security Office (2011).

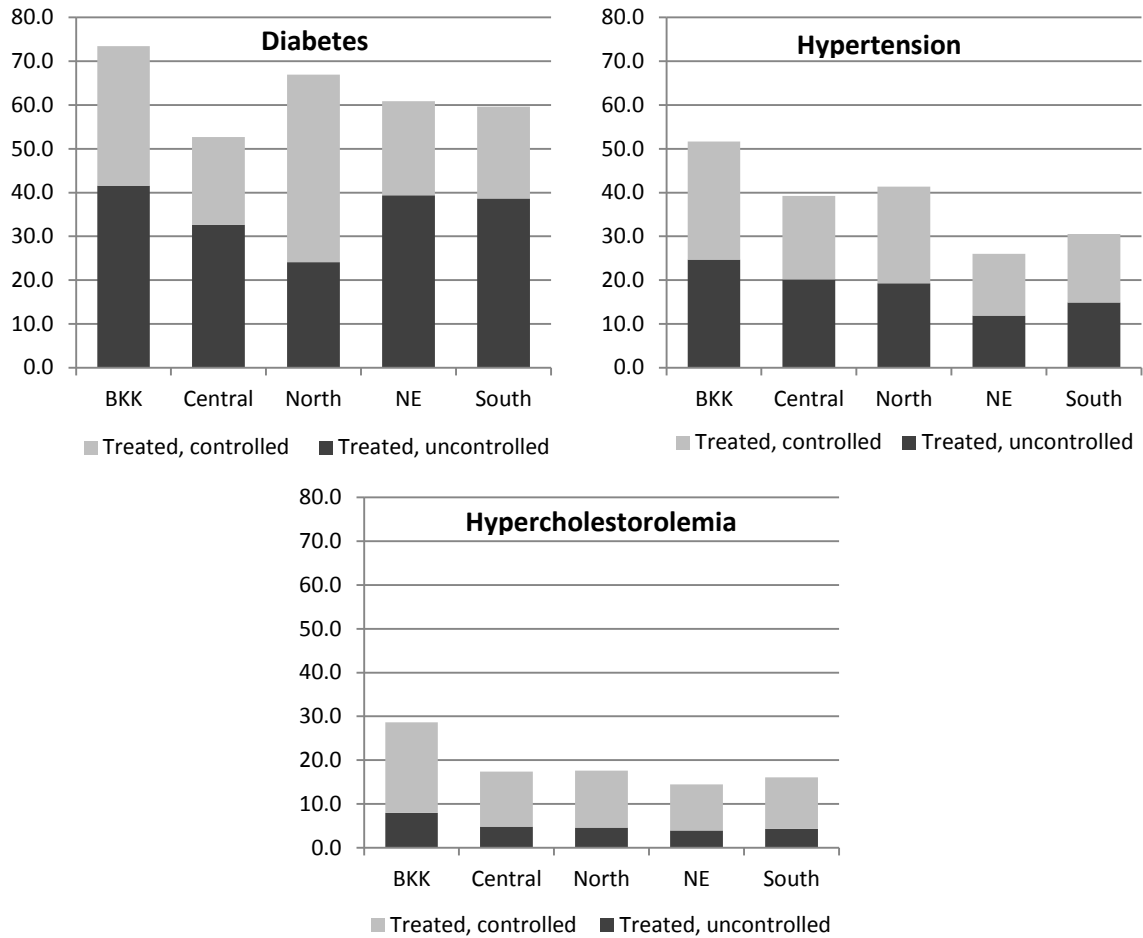
Do disparities in utilization and spending matter?

27. **The variation in utilization and spending across schemes and regions is striking, but the implications are not obvious.** The patterns in utilization and spending described above raise a concern that individuals in schemes or regions with lower utilization and spending receive inadequate or lower quality services, and that this may have adverse implications for their health. On the other hand, it may also be the case that the population in schemes or regions with high utilization and spending are receiving significant amounts of unnecessary care (as this does not provide significant improvement in outcomes). For instance, there is a growing body of literature documenting significant variation in clinical practice across the schemes. These studies tend to conclude that procedures and brand name drugs are overused in the CSMBS, and that the higher expenditures are not likely associated with discernable improvements in clinical outcomes. Along the same lines, many of the CSMBS admissions for the elderly may be unnecessary, but it may also be the case that UC members are under-served. Unfortunately, there is not enough evidence to determine which of these concerns is more significant.

28. **There are regional disparities in the extent to which individuals with chronic disease are receiving appropriate care, but no evidence on how this varies across schemes.** Evidence from the National Health Examination Survey shows variation across regions in treatment of diabetes, hypertension and hypercholesterolemia (Figure 18), with residents in Bangkok tending

to fare better than residents in other parts of the country (in particular, the Northeast and the South). However, with the exception of hypertension, the variation is not very large, and with the exception of Bangkok, regional patterns are not clear.

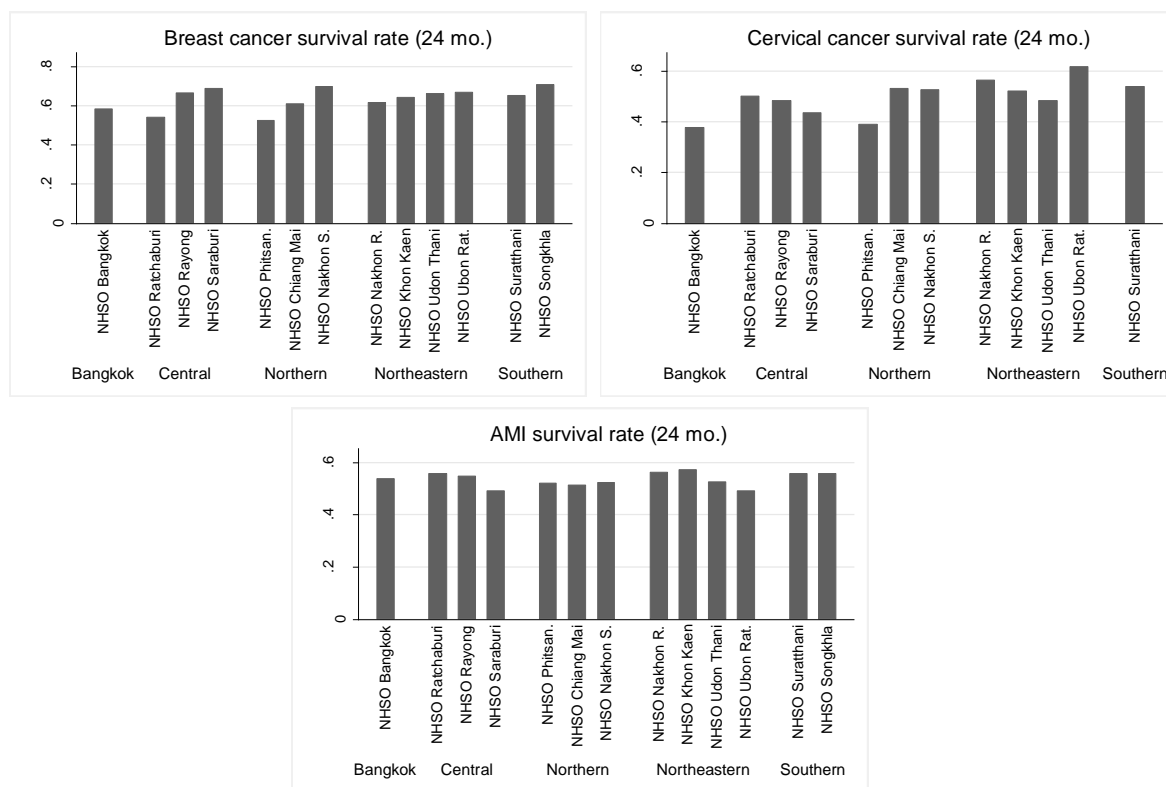
Figure 18: There is significant regional variation in the management of chronic disease



Source: Wichai Aekplakorn et al.: Thai National Health Examination Survey IV, 2009

29. For UC members, regional variation in cancer and acute myocardial infarction (AMI) survival rates (among UC members) is also relatively minor. Figure 19 shows the proportion of UC patients with breast or cervical cancer, or who suffer a heart attack, who survive for at least two years. The variation is relatively small, suggesting that there are no clear regional patterns in access to, and quality of, essential health services.

Figure 19: Regional variation in cancer & acute myocardial infarction (AMI) survival is small



30. **More research is needed on the implications of variation in health system resources, utilization, and spending across schemes and geographic areas.** This section has only ‘scratched the surface’ of these complex issues. It has documented significant disparities in utilization and spending across schemes and regions. It has also provided some limited evidence that disparities do not necessarily translate into worse quality or worse health outcomes, and that over-provision of services is a growing problem in some parts of the health system, which has important implications for efficiency. However, more evidence is needed on both these issues. Given the very high levels of utilization and spending in the CSMBS, it would be interesting to extend the analysis of clinical practice variation across schemes to look at differences in cancer and AMI survival and other quality indicators. This would help answer the question of whether the higher spending under the CSMBS is buying tangible benefits, and whether there are needs in the UC scheme that are not adequately addressed. The implications of geographic disparities in spending in the SSS and CSMBS also warrant further attention.

31. **Although this section has focused on inequalities in the health system, it has also highlighted significant potential to improve outcomes for some non-communicable diseases, which has implications for future health spending.** While persistent inequalities require attention going forward, this section has also highlighted that chronic conditions are either undiagnosed or untreated for a significant share of patients. Moreover, while there is little regional variation in cancer or AMI survival rates, current survival rates fall well below OECD

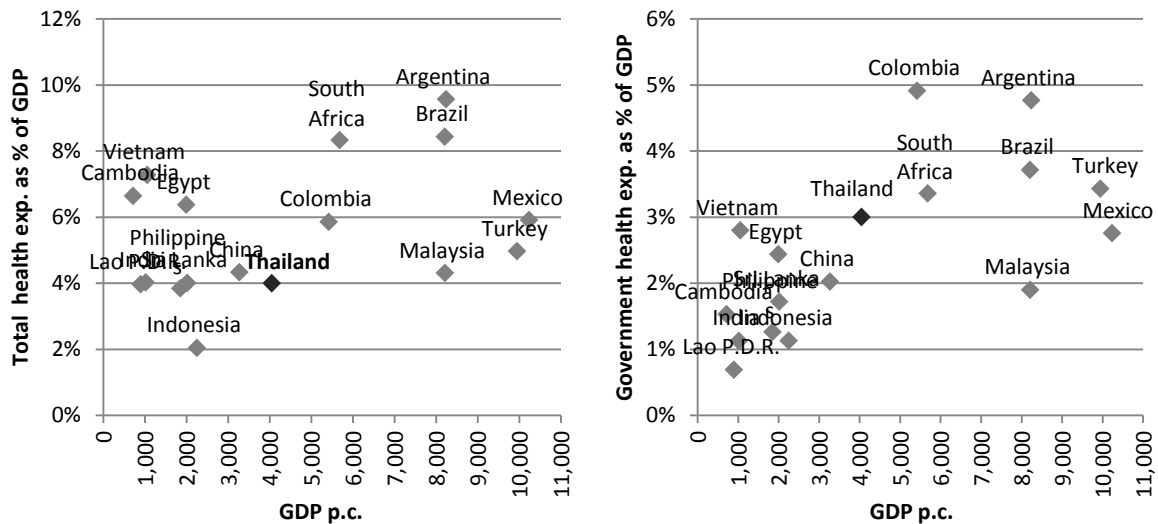
rates.¹⁵ As discussed in the next section, cost pressures in the Thai health system are already significant, and efforts to expand the coverage and quality of chronic disease management, cancer treatment, and other services is likely to add to this pressure.

D. Cost Pressures in the Health Sector and their Consequences

Government health spending: trends and international comparisons

32. **Thailand has achieved universal coverage with relatively low levels of spending on health.** Thailand's total health spending of around 4% of GDP in 2008 was lower than many regional and middle-income peers that have made less progress towards universal coverage (Figure 20).¹⁶

Figure 20: Health spending accounts for a relatively low share of GDP in Thailand



33. **Unlike many other middle-income countries, a high and rising share of total health spending is financed by government.** In 1995, government financing accounted for 47% total health spending; by 2008, this had increased to 75% (Figure 21). As a result, government health spending as a share of GDP has nearly doubled, from around 1.5% in 1995 to almost 3% in 2008. The upside of this trend is the reduced reliance on out-of-pocket financing, and the benefits that come with that in terms of financial protection and equity in access. However, these benefits imply a growing fiscal burden. In a context of limited buoyancy of government revenues, the share of the government budget allocated to health has increased from around 10% in 1995 to just over 14% in 2008. The share of the government budget dedicated to health is hence relatively high compared to regional and middle-income peers (Figure 22).

¹⁵ As noted in section B, 2-year survival rates for breast and cervical cancer in Thailand are around 0.65 and 0.5 respectively, while 5-year survival rates in OECD countries are in the range of 0.7-0.88 and 0.55-0.75 for the same conditions.

¹⁶ It should be noted that government spending in Thailand is under-estimated on account of the fact that CSMBS spending for locally contracted civil servants is not captured by the NHA estimates.

Figure 21: The share of total spending financed by government has been rising

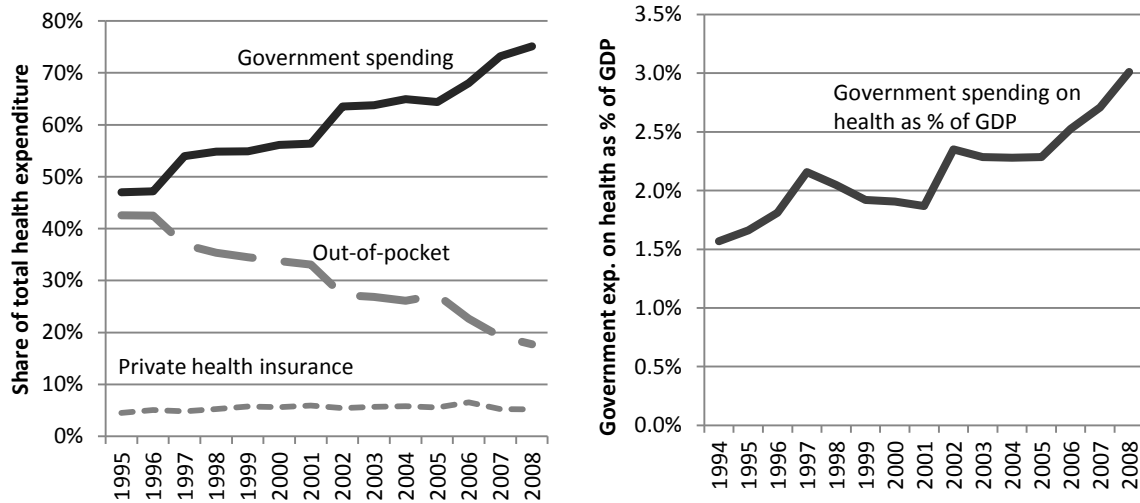
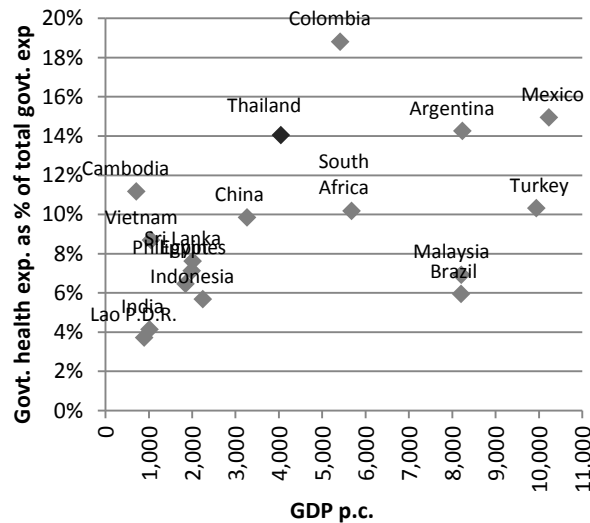
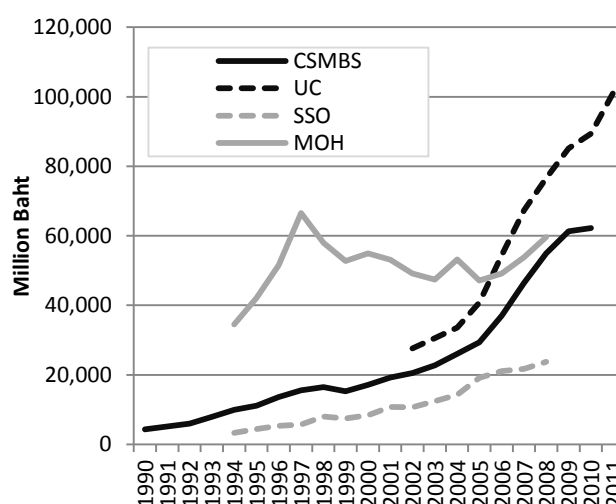


Figure 22: Thailand spends a relatively high share of the budget on health



34. **Pressures on government health spending have been driven primarily by rising spending in the UC and CSMBS, and are likely to persist in future.** Spending in the UC and CSMBS, which accounted for over 50% of government health spending in 2008, has been increasing rapidly (Figure 23). This increase reflects expansion of the breadth and depth of coverage, increased utilization and costs per episode, rising labor costs, and other factors (see Box 3).

Figure 23: Spending increases are primarily driven by rising costs in the UC and CSMBS



How are mounting cost pressures likely to play out in the future?

35. **Cost pressures drive increases in government and private spending, but can also manifest themselves in other ways.** If cost pressures are not accommodated by rising government spending, they can result in hospital deficits, increased waiting times and other forms of rationing, deferral of facility maintenance, or deterioration of quality. There is ample anecdotal information that some of these problems are becoming more significant, including recent reports of widespread hospital deficits (see Box 4). Indeed, a number of health experts in Thailand have expressed their concern about financial deficits in public hospitals. According to 2009 data, out of 824 hospitals nationwide, 91 were in serious financial crisis and 376 were in “mild” crisis.¹⁷ Problems appear to be more evident in community hospitals with a small UC catchment population and few CSMBS clients. A number of possible explanations for severe hospital deficits have been put forward, but most agree that, among others, the rise in the remote area allowance for health care workers is an important contributing factor. However, while there are clear indications that hospital deficits are a growing problem, the extent and relative importance of the broader manifestations of cost pressures remain unclear.

33. **Some research evidence points to variation in hospital efficiency, suggesting there is scope to achieve some cost savings by tackling variation.** The financial position of hospitals is not a reliable indicator of Thai hospital efficiency. As in other large, managed public hospital systems, it can be difficult to obtain data on the underlying financial position of MOPH hospitals because resources can be transferred between facilities to mitigate financial stress. Studies have identified significant variation in hospital efficiency by using a range of methods to estimate and compare Thai public hospital efficiency. These methods include envelopment analysis, stochastic frontier analysis, other econometric methods, and benchmarking of efficiency indicators (such as average length of stay).¹⁸ However, most studies note the need to improve the robustness of efficiency studies in Thailand through improved measurement of outputs, quality and study of the environmental conditions that affect efficiency. The latter include remote and sparsely populated

¹⁷ *The Nation*, 8 October 2010.

¹⁸ For a recent example, see Direk Patmasiriwat (2008): *Efficiency of Public Hospitals in Thailand: in Search of a Cost Efficient Frontier*, available at www.journal.nida.ac.th

locations where high unit costs may be necessary to achieve quality and safe access. In addition, the MOPH and the health insurance schemes lack a system for using efficiency measurement or benchmarking to monitor hospital performance and drive efficiency improvement.

Box 4: Rising labor costs in the health sector

The geographic distribution of health workers in Thailand has improved but remains poorly aligned with population needs. Medical doctors and nurses are disproportionately concentrated in urban areas, particularly in Bangkok and central Thailand, whereas the majority of the population lives in rural areas. Thailand suffers from shortages of certain skills, including medical doctors and nurses, and struggles to recruit and retain health care workers (notably medical doctors) in rural or remote areas where professional opportunities, infrastructure and lifestyle are generally regarded as less appealing than in urban settings. The tendency for medical doctors to prefer specialist careers also adds to the problem as this not only reduces the number of general practitioners, but positions for specialist doctors are almost exclusively available in provincial and regional hospitals, which are located in urban areas. Increasing competition for medical staff from a growing private sector only worsens the situation.

To address concerns about the availability and distribution of health care workers, the government has implemented a range of strategies over the years, including increasing “production” (the number of students graduated), local recruitment and training, compulsory rural service, revising curricula to include rural health issues, as well as offering various kinds of financial incentives, which can be as much as 3-4 times the base salary. There is no question that rising labor costs in the health sector are largely attributable to these financial incentives.

Financial incentives come in the forms of allowances and overtime pay to supplement the base salary. The most longstanding allowance is the position allowance that is paid to civil servants at or above grade C7 or its equivalent in the new classification system. This rewards many professionals who are committed to long-term government employment. There is also a living allowance which is paid to staff who earn less than 11,700 baht per month, which is up to a maximum of 1,500 baht. In addition, there are two specific allowances for priority groups of health care workers – a substantial remote areas allowance which is paid to medical doctors, dentists, pharmacists, nurses, and some other professional staff at highly differentiated rates, and a more modest non-private practice allowance which is paid to doctors, dentists, and pharmacists.

The amount for the remote areas allowance was significantly raised in November 2008. Sample Community Hospital payroll data in a province in northern Thailand obtained in February 2010 show a remote areas allowance of 50,000 baht/month for doctors and dentists, 14,000 for pharmacists, and 3,000-4,500 for registered nurses, with smaller amounts paid for some other jobs; and a non-private practice allowance of 10,000 baht/month for doctors and dentists and 5,000 baht/month for pharmacists. A remote areas allowance alone is over two times a doctor’s base salary, and the combination of a non-private practice allowance and a remote areas allowance accounts for 80% of a dentist’s monthly earnings. Depending on the degree of remoteness and the number of years served in the government, the monthly remote areas allowance for a doctor or a dentist in a community hospital can be as high as 70,000 baht. According to sample data, overtime pay is also an important source of extra earning, and accounts for 35% of a nurse’s earnings, and nearly 20% of a doctor’s earnings. In order to appease health workers in provincial and regional hospitals who do not benefit from the remote areas allowance, in January 2009 the Ministry of Public Health raised the overtime rate in general and regional hospitals by 20-25%. The position allowance and the living allowance are paid from MOPH central budget, while the non-private practice allowance, remote areas allowance, and overtime are paid from the facility’s own reserves.

Although these financial incentives can play an important role in keeping health professionals in the public sector in rural areas, the sharp rise in these costs, particularly the remote areas allowance, is worrying in the context of fragmented responsibility for management of public health expenditure. The MOPH has authority to set and raise the remote areas allowance and other personnel costs that are financed from a hospital’s own revenues. But these cost pressures eventually feed through to NHSO expenditure. There is lack of congruence between NHSO and Bureau of Budget accountability for health expenditure control and authority over key drivers of health expenditure that remain with the MOPH. A number of experts believe that the sharp rise in the remote areas allowance and overtime, which are not funded by increases in the MOPH budget allocation, but are paid from the hospital’s reserves, is the main cause in recent years for growing public hospital deficits.

36. Cost pressures are likely to increase over the next couple of decades as a result of the rising prevalence of chronic diseases, ageing, continued pressures for higher health worker compensation, demands for expanded benefits, and the rising expectations of patients. Thailand’s challenge in dealing with the fast-moving epidemiological transition to non-

communicable diseases (NCDs) is formidable. Over the past 12 years, the prevalence of diabetes has tripled (from 2.4% to 6.8%), hypertension has quadrupled (from 5.4% to 22.1%), and overweight and obesity in Thai males has tripled (from 1.5% to 4.8%) and nearly doubled in Thai females (from 5.6% to 9%).¹⁹ Like many other middle- and upper lower-income countries, NCDs in Thailand are no longer exclusively affecting the wealthier segments of society, but also hitting the poor, who tend to have less knowledge of risk factors and less access to preventive health services. It is also important to note that a large share of the burden of NCDs occurs in populations of working age. In addition to NCDs, injuries, particularly those associated with traffic accidents, also account for a growing share of mortality.

37. Thailand has experienced the demographic transition from high to low levels of fertility and mortality, resulting in an increase in the elderly share of the population. Successful implementation of family planning programs and health system development in Thailand over past decades are important factors contributing to the decrease in fertility and the lengthening of life expectancy at birth, which in turn has reshaped the age structure of the Thai population by shifting relative weight from younger to older groups. The total fertility rate (average number of children per woman) dropped from 6.4 in the 1950s to 1.8 in 2008, and is projected to decline marginally to 1.5 over the next 20 years.²⁰ Life expectancy at birth is projected to increase from 69 years in 2008 to 76.8 years in 2025 and 79.1 years in 2050.²¹ Thailand is also experiencing an increase in the proportion of the “oldest old” (the segment of the population aged 80 and above). In 1975, only 0.3% of the Thai population was 80 years old and older; by 2000, this proportion had doubled. It is projected that the percentage of the population aged 80 years and older out of total population will rise to 1.7% in 2025, and 5.5% in 2050.²²

¹⁹ This information has been drawn from the First National Health Survey (1991-1992) and the Third National Health Survey (2003-2004), Bureau of Policy and Strategy, Ministry of Public Health.

²⁰ United Nations, *World Population Ageing, 1950-2050*; World Development Indicators, 2010; UNFPA, *Population Ageing in Thailand: Prognosis and Policy Response*, 2006.

²¹ United Nations, *World Population Ageing, 1950-2050*.

²² UNFPA, *Population Ageing in Thailand: Prognosis and Policy Response*, 2006.

Box 5: Hospital deficits

The issue of financial deficits in public hospitals in Thailand is not new. Since the introduction of UC in 2001, a number of hospitals have experienced financial deficits. However, in the past these problems tended to be restricted to some community hospitals with a small catchment population and revenues mostly from UC. The deficit has been more evident in Central Thailand than in other regions as the population is relatively small compared to the number of public hospital beds. Indeed, the career paths and preferences of medical staff have led to their concentration in central Thailand and Bangkok.

However, it appears that deficits have become more severe and pervasive in recent years. Hospital financial deficits made headlines in October 2010, when 91 out of 824 public hospitals were reported to be in serious financial difficulties (meaning that hospitals were operating at a loss, with no reserves). An additional 376 hospitals were reported to be in mild financial difficulties (meaning that they operated at a loss, but had some reserves), and 100 hospitals were reported to be facing minor financial difficulties. Only 257 hospitals were deemed to be in sound financial health. It was also reported that 85% of community hospitals were operating with deficits.

Some experts in Thailand note that the end-of-year payment processes of NHSO may create the appearance of deficits. Nonetheless, many believe that the increase in reports of hospital deficits reflects real cost and revenue pressures. On the cost side, in November 2008, a large increase in doctors' salaries was approved without prior budget planning to encourage doctors to work in government hospitals in remote areas. The *Bangkok Post* reported on October 15, 2010 that NHSO estimated that 280 public hospitals experienced deficit problems caused mainly by the sharp jump in payments to medical professionals. These problems could become worse as other health care workers in provincial and regional hospitals also lobby for greater financial benefits (the MOPH has already increased overtime rates by 20-25%).

A recent HISRO study on hospital financial deficits found that the number of community hospitals operating with net losses (excluding depreciation and amortization) was 58 in 2007 and 75 in 2008, but the number suddenly jumped to 520 in 2009. In 2010, the picture improved somewhat, with 302 community hospitals operating at a net loss. The number of provincial hospitals operating at a net loss also first increased and then fell slightly (14 in 2008, 42 in 2009, and 31 in 2010). The situation was the opposite for regional hospitals, as 5 operated at a net loss in 2008 and only 1 was losing money in 2009. However in 2010 the number of regional hospitals losing money rose sharply to 10. The HISRO study highlights, as key contributing factors, the growth of salaries and compensation, as well as rising drug costs.

On the revenue side, refinement of DRGs to increase the level of adjustment for complexity tends to shift the share of UC hospital revenues away from lower level hospitals towards higher level regional and national referral hospitals. The incentives for hospitals to engage in "DRG creep" have also played a role over time because of policies that, with a lag, increase the NHSO budget allocation for growth in such costs.

The increase in hospital deficits cannot be attributed to just one or two causes. More likely, a combination of complex factors have been at work at both the aggregate level of deficits and the distribution of deficits across hospitals of different types in different regions.

38. **Thailand's demographic transition to an aging society and the increase in the proportion of the "oldest old" has direct implications for the country's health system.** The health of older persons typically deteriorates with increasing age, and is more prone to such old age morbidity as chronic NCDs and disability. This results in greater demand for long-term care, which in turn puts greater cost and service pressure on the health system and social services. A study by the HISRO indicates that health care spending on the elderly in Thailand is likely to increase from 34% to 37% of the total expenditure on health care in the next decade, due mainly to increases in the price of drugs, services, and medical equipment.²³ The HISRO report also points out that only around one-fourth of the elderly population in Thailand has undergone a health check-up, and it is likely that around 300,000 elderly people are not yet aware that they have diabetes, and 1.4 million elderly people are not yet aware that they have hypertension. It is important to encourage more elderly people to access health check-up services, but the government needs to be prepared for this future increase in health care costs.

²³ Sakunphanit, T., *Summary of the Health of the Elderly in Thailand 2010*, HISRO, May 2011.

39. **For many years, there has been mounting concern in developed countries over the impact of population aging on their health care expenditures.** The OECD's most recent projection suggests that population aging in 13 developed countries will raise age-related social expenditures from an average of under 19% of GDP in 2000 to nearly 26% by 2050. Expenditure on health care and long-term care, as well as old-age pension payments, are each responsible for approximately half of this increase.²⁴ Another study by Kotlikoff and Hagist explores OECD demographic and health expenditure data, along with age-related health care expenditure in 10 OECD countries between 1970 and 2002. This study found that, for the United States, the average expenditure per capita for those aged 75 and older is 8-12 times as large as for those aged 50 to 64. In other developed countries, the relative health spending for the oldest old ranges from 2 to 8 times more.²⁵ However, there are also differing views. Some experts argue that an aging population per se does not directly lead to major growth in demand for health care and in national health spending. They further point out that age is not a good predictor of health expenditure. Instead, the time to death is a substantially better predictor of health expenditure than age.²⁶ A similar South Korean study²⁷ of age-related health expenditure reveals that over time more health care resources are allocated for the older cohort of the population and this suggests that population aging is causing health care expenditures to increase. However, the same study also argues that the impact of the aging population on health care expenditures is superficial; instead attention should be paid to the real causes of health expenditure growth, including greater use of medical technology, health workers' demands for higher salaries, and provision of the wrong incentives for providers and consumers of health care due government regulation and greater social health insurance coverage.

40. **It appears that the contribution of aging to health care costs is the product of a complex interaction between demographic change, increases in the demands of later cohorts of the elderly, and, as technology advances, the increasing willingness of health professionals to offer medical intervention to older patients.** The differences in CSMBS and UC health care utilization rates and health expenditures per member, as seen in Figures 10 and 11 above, illustrate this point. If all the elderly in Thailand were to increase their rates of healthcare utilization and expenditure to the levels of CSMBS members (who may represent a patient group with relatively high health literacy and high expectations for service delivery), the cost pressures on the health system will be very severe.

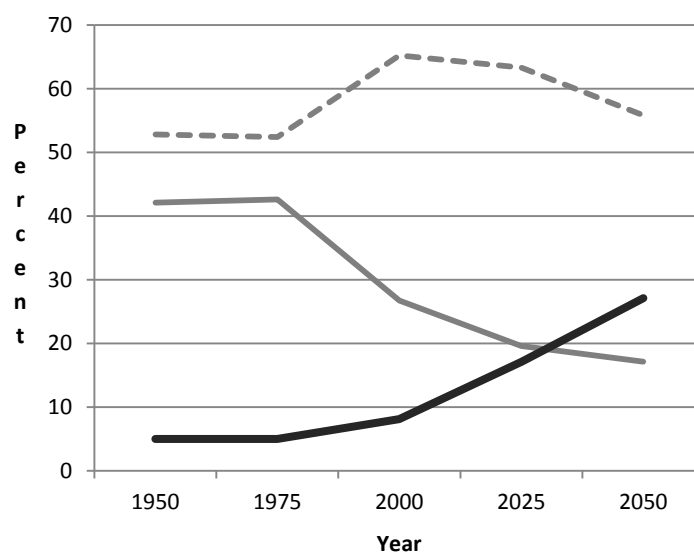
²⁴ Gray, A., Population Aging and Health Care Expenditure, *Ageing Horizons*, Issue 2, 15-20; Dang, T., Antolin, P., & Oxley, H. (2001) Fiscal Implications of Ageing: Projections of age-related spending. Economics department working papers no. 305, ECO/WKP (2001) 31. Paris: Organization for Economic Co-operation and Development.

²⁵ Kotlikoff, L., and Hagist, C., "Who's Going Broke? Comparing Healthcare Costs in Ten OECD Countries, NBER Working Paper 11833, December 2005.

²⁶ Gray, A., Population Aging and Health Care Expenditure, *Ageing Horizons*, Issue 2, 15-20.

²⁷ Tchoe, B., and Nam, S. H., Aging Risk and Health Care Expenditure in Korea, *International Journal of Environmental Research and Public Health*, August 2010, 7(8):3235-3254.

Figure 24: Thailand's population is aging



Source: United Nations, World Population Ageing, 1950-2050

41. **Thailand has already put in place some measures to address cost pressures.** These include ongoing CSMBS reforms to curb rising costs, provider payment arrangements under the UC and SSS schemes, technology assessment prior to expansion of benefits (e.g. processes for anti-retroviral treatment (ART) and end-stage renal therapy under UC). There is also scope for expanding these measures. In response to ageing and the rise in NCDs, Thailand could still address rising health costs by strengthening health promotion and preventive programs, as well as developing systems for financing and delivering long-term care. Active participation of local governments in sharing costs and responsibility for delivering services should be supported and expanded. To address utilization and “technological change”, Thailand could strengthen its introduction and use of technology through evidence-based decision making on what to finance. Thailand could also promote payment systems that encourage cost-consciousness by providers (such as capitation and case-based payment), regulate private sector promotion of technology, and identify cost-sharing partners. To reduce inefficiency and enhance capacity to manage costs, Thailand could consider the establishment a single administration for all the schemes, or even merging the schemes.

42. **However, even with effective cost control measures, demands on government spending are likely to increase.** To prepare for this challenge, various measures are required. First, there is need for the NHSO, the MOPH, or some joint institutional arrangement to systematically benchmark hospital efficiency and performance in general. Second, there is need for public debate about how to address the unequal distribution of hospital capacity and personnel. This includes indentifying who in the health system is best placed to moderate a public debate, encourage some adjustment in services, and consider about the implications of this for devolution/deconcentration. Third, there is need for strategic review of the directions implicit in the existing DRG provider payment mechanism, how it should be developed and regularly updated, as well as what payment mechanisms should be developed for outpatient, ambulatory and long-term care (current approaches are dragging a growing share of resources into tertiary level hospitals). However, future health challenges dictate developing primary/community and long-term care to provide support for growing numbers of people with chronic disease and elderly

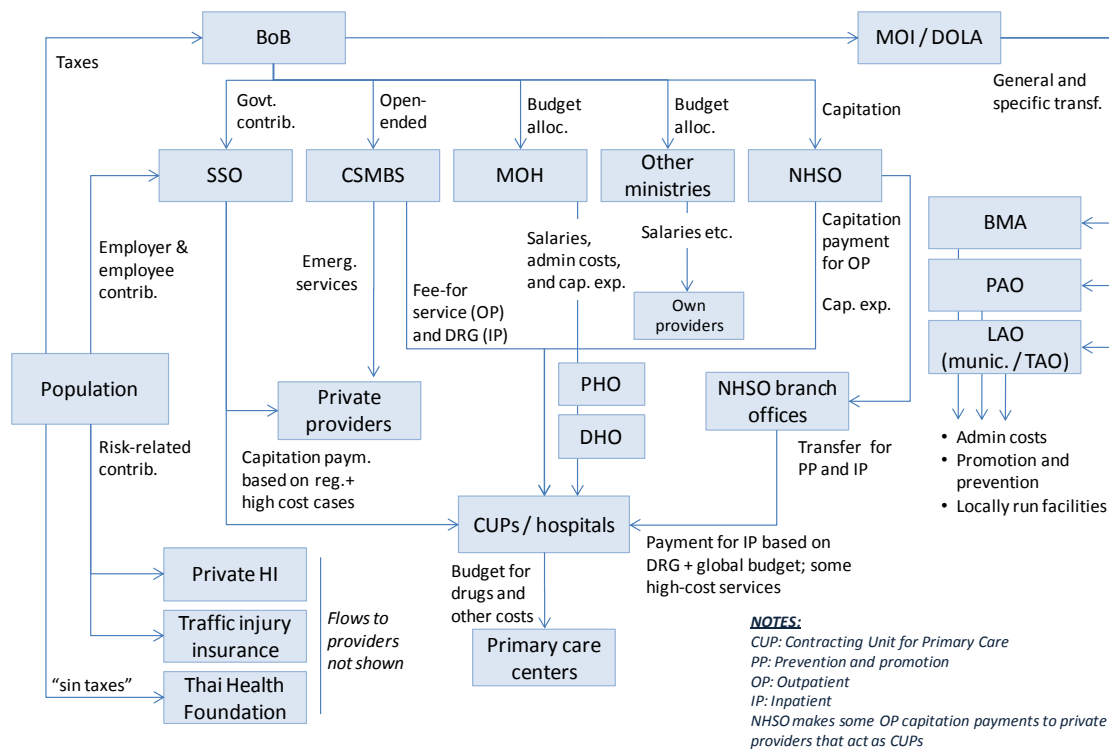
people who need long-term care. Finally, Thailand should consider the “right level” or future path of health expenditure, whether public expenditure should increase as a share of GDP and how to finance greater expenditure on health care. To inform this debate, there may be value in undertaking long term health expenditure forecasting and scenario projections of the sort that have been carried out in a number of OECD countries.

E. Fragmentation of Financing and the Future of Central-Local Relations in the Health Sector

Fragmentation of financing at the central level

43. **As in most health systems, health financing arrangements in Thailand are complex and in a state of continuous refinement and policy adjustment.** At the central level, budget financing is currently allocated across several agencies and schemes, including: the SSS; the CSMBS; the MOPH; other ministries with health responsibilities (Ministry of Education, Ministry of Defense, etc.); and, the National Health Security Office (Figure 25). These agencies, in turn, use a wide range of mechanisms to channel funds to health care providers and local governments to finance health services and other functions. At the central level, dedicated “sin taxes” are earmarked for the Thai Health Foundation, which supports multi-sectoral interventions to prevent disease and promote good health, and the SSS which collects contributions from employers and employees.

Figure 25: Financing arrangements in the health sector are complex



44. **The current central financing arrangements have many strengths but fragmentation of financing across central level sources presents several challenges.** While the existence of different schemes catering to different population groups makes sense historically, such

fragmentation inevitably leads to duplication of administrative systems and inefficiency arising from differences in payment, reporting and monitoring arrangements. Fragmentation of financing, reporting and monitoring arrangements is also likely to undermine the accountability of health care providers. These challenges can be partly overcome through improved coordination, and this is the focus of a number of current initiatives. For instance, two committees are currently working on enhancing health insurance harmonization in Thailand. These are the National Health Care Financing Development Committee, which meets almost every month to maintain a dialogue between relevant agencies, as well as the sub-committee on health insurance under the National Reform Forum. An alternative solution would be merging the administration of the schemes under a single agency, and potentially merging the actual schemes. However, the latter option presents a number of challenges, which has prevented progress over the last few years, but it is again high on the policy agenda. In part, action on this agenda is driven by stakeholders who are challenging the notion that private sector workers should be paying for benefits (through social security contributions) that in principle should be universally available through the UC scheme.²⁸

45. **The problem of fragmentation at the central level goes beyond the health insurance schemes.** While most recurrent costs for service delivery are now financed through the NHSO, the MOPH is responsible for personnel management and the salaries for central civil servants assigned to the majority of the health facilities which belong to the MOPH (the civil service salary budget for the MOPH is sliced off the top for the capitation budget allocation to the NHSO). While the NHSO distributes most of its remaining funds equitably to its 13 regions, the MOPH distributes the salary share of the budget according to the distribution of its civil service staff. This locks in the inequalities in staff distribution which were noted in section C above. This fragmentation of responsibility for personnel and other recurrent costs, results in barriers to redeployment of human resources to address health needs and improve equity. Similar fragmentation can be seen in the financing of capital expenditures (currently financed through both the MOPH and the NHSO) and prevention and promotion (also financed by both the MOPH and the NHSO, and with the SSS and the CSMBS also having a significant stake and growing engagement). Tackling inequalities in distribution of staff and variation in hospital efficiency calls for coordinated decision making across all the main streams of finance, and encompassing all inputs to care. Consolidation of the responsibility for resource allocation, purchasing and monitoring provider performance through integration or shared management, could strengthen health system efficiency and equity, and reduce administration and transaction costs. At the same time, it must be acknowledged that the underlying mal-distribution of infrastructure and personnel is very difficult for any health system to address. In most countries, it requires a combination of long-term strategy, transitional support measures, consultation and negotiation with affected stakeholders, and political and civil society engagement.

The evolving role of local government in the health sector

46. **Local governments are also involved in health service delivery, and account for a small but rising share of public expenditure on health.** As noted above, there are about 7,854 local administrative organizations (LAOs) in Thailand. Most LAOs provide some disease prevention and health promotion (P&P) services and many municipalities have long provided primary care services. Around 30 health functions and duties are assigned to LAOs by the Decentralization Act (1999). These functions and duties are broad and cover nearly all aspects of public service delivery. In relation to health, municipalities and Tambon Administrative

²⁸ The SSS has countered this position by expanding benefits relative to what is provided through the UC scheme – e.g. in the areas of dental care, cancer treatment, access to emergency hospital care, and kidney transplants.

Organizations (TAOs) are assigned by the Decentralization Act to deliver public health, family health, and health care services. Provincial administrative organizations (PAOs) are assigned to oversee provincial hospitals and health care services, as well as the prevention and control of communicable diseases. Almost all of these functions overlap with those delivered by the MOPH and other central government agencies. There is no clear distinction in law or regulation between the mandatory assigned functions and the discretionary functions of LAOs in health. The provincial and district administrations of the MOI are responsible for coordinating the work of national sectoral line ministries at the local level, including the MOPH and the LAOs, however it is not uncommon today in some communities for the LAOs and the MOPH to duplicate each others' health services.

47. **While decentralization has been slower than envisaged, some LAOs play an important role in the health system.** For more than 20 years, some Thai LAOs – certain municipalities, and most notably the Bangkok Metropolitan Authority (BMA) – have established and financed from their own revenues *decentralized* health services in health centers or hospitals. In urban areas, the MOPH plays a role in providing primary health care services through hospital outpatient departments, while municipalities tend to organize services in community-based, non-hospital settings. Both the municipalities and some TAOs have also carried out health promotion and disease prevention (P&P) activities. This mode of development of LAO health services has accelerated in the last five years as local governments have received an increased share of government revenue.

48. **The evolution of health insurance arrangements has facilitated increased pluralism of service delivery under public (social insurance) financing, including LAO service delivery.** The current system for financing health services has provided a reliable revenue stream to the MOPH, the LAOs and willing private providers. The NHSO has delegated management of primary care funds to some LAO hospitals which act as the contracting units for primary care (CUPs) for their local area. LAO hospitals typically contract with the NHSO and other social health insurance (SHI) schemes and they function as part of the local health services network, in coordination with MOPH hospitals and the hospitals of other ministries. These NHSO modalities could be described as *delegation* of responsibility to LAOs. LAO hospital service provision is most prominent in Bangkok where the MOPH has little hospital capacity, and the BMA and the Ministry of Education are the main public hospital providers.²⁹ Since 2006, the NHSO has provided matching grant funding for TAOs to set up Tambon community health funds for local P&P activities. The BMA and the Tambon Health Fund examples could be described as the *joint responsibility* of the NHSO and LAOs. In the past two years, the NHSO has increasingly *deconcentrated* authority to regional purchasing boards that include LAO representation. This initiative has been piloted in two regions and will be scaled up to a further four regions in 2012.³⁰

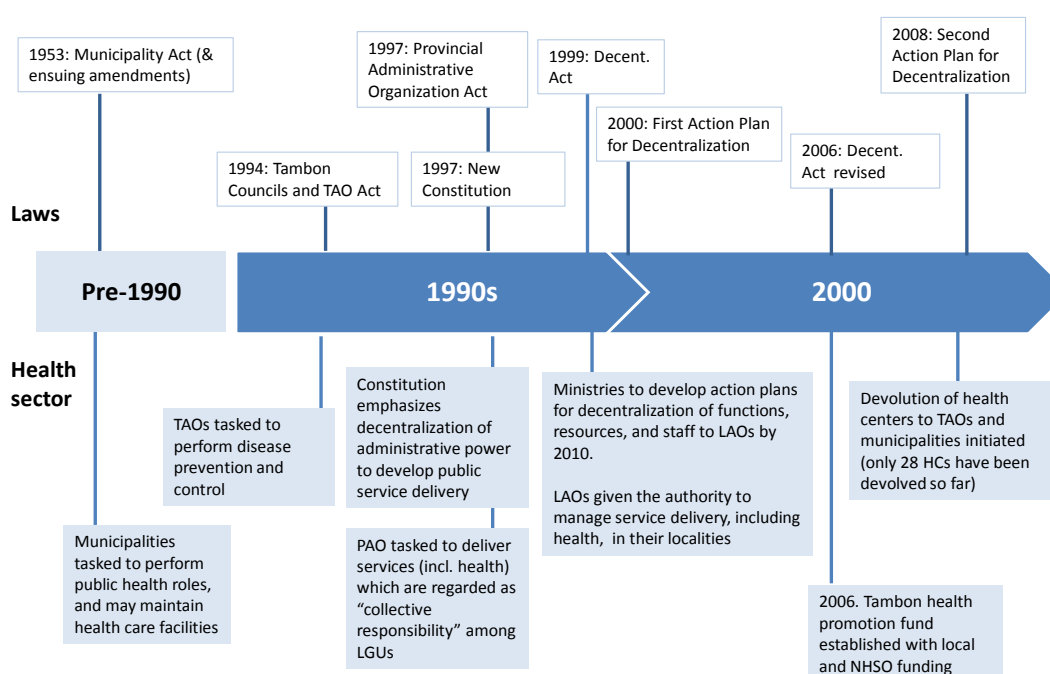
49. **There has been extensive experimentation with decentralization in the health sector since 2000.** Under the 2000 First Action Plan for Decentralization to implement the 1999 Decentralization Act, the MOPH *deconcentrated* management of health services to 10 pilot area health boards that included participation of LAO representatives. Although most of these pilots functioned successfully, this initiative was abandoned primarily because it was overtaken by the

²⁹ The BMA provides substantial allocations for health from its budget, and operates 9 hospitals and an emergency medicine/ambulance service center as well as 68 HCs. The BMA is in the process of establishing a university which will manage a university teaching hospital.

³⁰ The role that LAOs play in the boards is described by participants as relatively passive because the agenda and role for regional boards is largely technical and financial, providing limited scope for meaningful LAO input.

implementation of UC. Following the 2008 Second Action Plan for Decentralization, under the 2006 amendment of the Decentralization Act, the MOPH began to *decentralize* health centers by transferring facilities and staff to TAOs, subject to very demanding criteria. Although hundreds of TAOs expressed interest, only 28 out of over 9,000 MOPH health centers had been devolved to date while a further 8 awaited final approval.³¹ Evaluations of the 28 transferred HCs found no evidence of a deterioration in performance following decentralization, and many examples of improvement in the resources for health, the health services provided, and responsiveness to the community and patients. The risk of fragmentation of service delivery and lack of economies of scale as a result of transfers to small TAOs has been compensated for, in practice, by the coordinating role played by the CUP and by the continuation of MOPH technical support and training to transferred HCs by the MOPH

Figure 26: The evolution of Central-Local Relations



Health spending by local governments

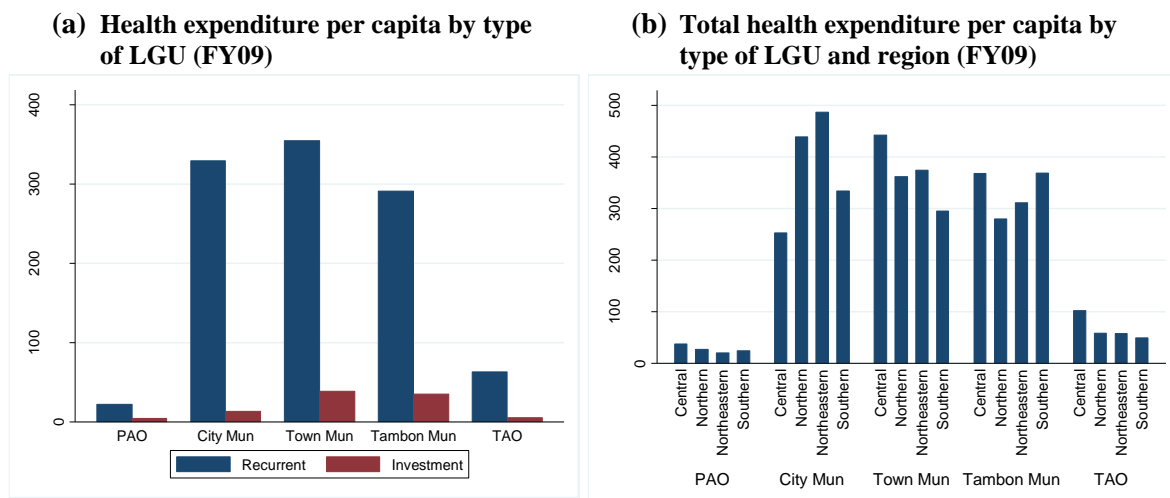
50. **Local government spending is financed through a mix of local revenues, shared revenues, general transfers, and specific transfers.** Currently LAOs have access to about 26% of general government revenues. Less than 30% of LAO revenues are locally raised or received from local surcharges on central taxes. The remaining 70% come from shares of centrally-

³¹ The limiting criterion for transfers in many instances is the requirement that a majority of HC staff, including the HC head, voluntarily transfer to LAO employment. Interviews with HC staff indicate that key factors making staff reluctant to transfer are: unwillingness to decide unless there is clear support for decentralization from MOPH leadership, concern about lack of a career path under TAO employment, and concern about having to work more closely with politicians, leading to risks that personnel and resource allocation decisions will be politicized.

collected taxes as well as general-purpose and specific-purpose subsidy transfers. The general purpose transfer currently accounts for around 26.8% of local revenues, and is intended to fill the vertical fiscal gap in view of the limited revenue raising-power of local authorities with extensive service delivery responsibilities, and it also supports the equalization objective.³² The specific purpose transfers, which currently account for 27.5% of total local revenues, are intended to meet central government mandates in social and environmental policies and achieve specific nationally set policy objectives without imposing additional taxes on local residents.³³ Decentralization reforms so far have focused on giving LAOs access to a greater share of general government revenues, with only modest attention paid to strengthening local taxing powers and autonomy.

51. **There is currently very little data on the role of LAOs in financing and delivering health services, but a recent LAO survey suggests that in most LAOs, local government spending is limited.** The survey was implemented as part of the PFMR by Thammasat University, with questionnaires sent to a total of 7,854 LAOs (See Annex 2 for details of the survey, and complete results). Due to some LAOs not responding to the survey or problems with the health expenditure data, complete data are available for only 61% of LAOs.³⁴ While sampling bias is hence a concern, the data suggest that local government spending on health is quite low, accounting for around 3-4% of total government spending on health.³⁵ Most of this spending (60%) is by TAOs and Tambon municipalities. However, per capita spending is highest at the municipality level, where it amounts to around 300 Baht per capita (compared to 22 and 63 Baht at the PAO and TAO level, respectively) (Figure 27). Most of the spending (89%) is recurrent, with compensation and “miscellaneous” making up the largest share (38% and 25% respectively).

Figure 27: Health spending per capita by LGU level and region



Source: authors' analysis using LGU expenditure survey data; population data is from the CGD database

³² Evidence from other PFMR chapters suggests that there is only a weak, negative relationship between GPP per capita and the general purpose transfer, and that it does not achieve much equalization. Indeed, when looking at total transfers across different levels of government, both PAOs and municipalities demonstrate a positive relationship between GPP and total transfers. As such, the study suggests that general purpose transfers have only a very modest impact on equalization across provinces.

³³ Draft Thailand Public Financial Management Report, Discussion Paper: Central-Local Government Relations in Thailand, 2011.

³⁴ This survey is still the most comprehensive dataset on LOA spending in Thailand, as the local administration accounting system at the Ministry of Interior only captures information on 16%.

³⁵ This is lower than the NHA (2010) estimate of 7%, which is based on modelling undertaken by the National Economic and Social Development Board.

52. **The results of the LAO survey are largely consistent with evidence from other studies.** For instance, the International Health Policy Program, Thailand (IHPP) conducted a study on the role of local government units in the financing and provision of health services.³⁶ This small-scale study was conducted in two provinces – Lampang in northern Thailand and Nakorn Panom in Northeast Thailand. It shows that most of LAO expenditures from FY06 to FY09 were for administrative costs and infrastructure, with a small proportion being spent on health and other social services. On average, public health expenditures account for 3.6% of LAO expenditure, but there is great variation among different types of LAOs. PAOs spent less than 0.57% of their annual expenditure on public health, while City and Town municipalities spent around 7%, Tambon municipalities around 12%, and TAOs around 14%. It is interesting to note that during the period of this study, the proportion of public health expenditure to total annual expenditure has gradually increased across all LAO types, and that larger LAOs tend to spend less on health in proportion to other expenditures. About two-thirds of LAO spending on public health is on P&P.

Issues in moving forward with decentralization in the health sector

53. **The limited decentralization of HCs has achieved benefits, but some health sector experts have legitimate concerns about the wider prospects for health service decentralization.** Firstly, the overlap and ambiguity of LAO health functions is currently causing some problems. Aware that several of these functions overlap with those delivered by central government agencies, the Decentralization Act makes it clear that the transfer of overlapping functions should be completed within four years. However, in fact, transfer of overlapping health functions did not proceed in this time frame. As noted above, in many areas, LAOs and the MOPH provide the same types of health services in the same local area, and some of the services of PAOs could overlap as well. For example, while there is a general obligation for LAOs to control communicable diseases, the MOPH retains primary responsibility and has the technical capacity for this function. The MOPH's provincial health staff report wide variation in LAO commitment of resources to activities such as vector control, while LAOs argue that the necessary financial and technical resources have not been transferred to them so that they can fully take over this responsibility.

54. **A further concern about the assignment of health functions to LAOs is the risk of fragmentation in the management of health services, given the large number of LAOs.** Over 3,000 TAOs have a population of less than 5,000, making it difficult for them to achieve economies of scale even in primary health care delivery. In principle, voluntary merger of small TAOs and cooperation among TAOs in joint provision of services is possible, but there are practical political disincentives to use these mechanisms. Moreover, although many higher income countries provide primary care efficiently through small general practices, Thailand cannot easily adopt this model in rural areas, given its geography and health human resources. Rural health centers typically do not have doctors. They also do not have pharmacists, yet they function as the local dispensary of prescription medicines. Hence, health centers rely on support from doctors, pharmacists and other staff in the nearest referral hospital to provide the full range of primary care functions. HC transfers to date demonstrate positive results as long as the MOPH and the MOI's own provincial and district offices provide coordination and technical support to small LAOs. However, as of 2011, the transfer of authority from central to local government had

³⁶ IHPP, Final Report: Role of Local Government Unit in financing and provision of health services in two selected provinces, Thailand, 15 January 2010.

resulted in unclear and overlapping responsibilities for primary health care. Health centers also continue to have fragmented accountability and supervision. Where LAOs manage health centers, they face the challenge of coordinating with the contracting unit for primary care (CUP) which oversees the NHSO primary care budget, the local referral hospital, the MOPH's provincial office, and the district and provincial administrations, under the MOI. There is almost certainly scope to reduce fragmentation in these local systems of support and oversight for primary care and P&P, and thereby improve efficiency and leverage over health service performance. Box 6 illustrates some of these issues in the context of one area in which decentralization has made progress.

Box 6: Central-local relations in the health sector: Findings from a visit to Phitsanulok

Phitsanulok municipality, the capital of its province, has provided health promotion, disease prevention and primary care services through health centers for many years, predating the 1999 Decentralization Act. Both the mayor and the deputy mayor, who is responsible for health, are health professionals by training. A focus on health and other social services has been a successful political priority for the local government. After the establishment of the UC scheme, the municipality negotiated with the NHSO to become a contracting unit for primary care (CUP), managing the NHSO's capitation payments for primary care, and also establishing a community health fund, with the NHSO providing matching grants. This infusion of central government funds reduced the need for the municipality to use its own budget to provide these services and also enabled upgrading and expansion of services.

The municipality shares responsibility for P&P and the training of health staff with the Phitsanulok Provincial Health Office (PHO) of the MOPH. Citizens can choose to register with the municipality primary care units (PCUs) for their primary care or alternatively with the outpatient department of the regional MOPH hospital and a university hospital located in the city. Patients are free to go to any provider, no matter where they are registered. The regional hospital charged a high fee for any municipally-registered patients who went to its outpatient clinics, leading to financial pressures on the municipality. The higher fee reflected the higher average costs of hospital outpatient services. However, the hospital recognized the inefficiency of treating many primary care patients in the hospital setting and agreed to negotiate a more efficient arrangement with the municipality in order to decongest the hospital clinic and encourage greater use of the municipal PCUs. The regional hospital holds the capitation budget for all the patients of the municipality and pays a fee to the municipal PCUs for each patient consultation. These bilateral negotiations have been necessary to deal with the NHSO's method of paying for outpatient services that does not distinguish between lower cost primary care consultations and higher cost, more complex, specialist outpatient services. The municipality has also found it more efficient to contract with the regional hospital to manage procurement of medicines and supplies for its PCUs.

Phitsanulok municipality is ringed by a number of small TAOs within the surrounding local administrative district. Five of these TAOs requested transfer of their MOPH HC in 2009. After a two-year long assessment process by the MOPH, only one of these TAOs was judged to meet the MOPH criteria, and this TAO is still awaiting final approval. Some TAOs met all of the governance, capacity and commitment requirements of the MOPH, but the transfer was not approved because less than half of the HC staff were willing to transfer to TAO employment. Phitsanulok municipality is willing and able to provide technical, training and logistical support to the TAOs to help them manage their HCs efficiently. A formal inter-LAO joint organizational structure could facilitate this kind of cooperation.

The PHO expresses some frustration that only around half of the TAOs in the province provide resources for P&P, although communicable disease control, along with other disease prevention activities, is an assigned LAO function. The PHO has a limited non-salary recurrent budget to meet its disease control responsibilities and sees a need to mobilize more resources from LAOs for high priority activities such as vector control. But LAOs perceive that the MOPH has much greater technical capacity and resources for P&P than they have, and appears reluctant to transfer any responsibility or provide support to LAOs that seek transfer of health functions. Unclear, overlapping responsibilities and a stalled process for transfer of overlapping functions is leading to frustration on both sides and across administrative territories, as well as to variation in resources for some health functions.

55. **Concerns about potential downsides of decentralization are not unique to Thailand, but experience shows that many of the challenges can be overcome.** Health systems have technical characteristics that make decentralization – or even de-concentration – within the sector challenging and subject to trade-offs. In planned national health systems, in order to achieve

economies of scale, tertiary hospital services are usually planned for catchment populations of upward of a million people, but this is a scale larger than Thailand's provinces. Although primary care services can be provided by a single doctor in a small office, current trends are to encourage larger group practices, with greater capacity for diagnosis and management of care, and multidisciplinary teams providing care for populations of around 10,000 or more. In health care, the levels of the health system – community, primary, secondary, tertiary, and supra-tertiary health care – are linked by referral relationships and other vertical linkages that require cooperation, coordination and information exchange. The boundaries between levels of care change over time as technology and population needs change. For example, Thailand, in line with global trends, is facing a transition to reduce use of hospital care and shift care for many patients and many conditions into primary and community settings. Patients self-refer across levels of care and territorial boundaries in order to seek care in ways that cannot be controlled or regulated fully. Many health sector functions, such as management of particular diseases (e.g. cancer or cardiovascular disease), public health risks (e.g. vector-borne disease, tobacco use or occupational health risks) have components with very different economies of scale. These combine components that are best carried out nationally (e.g. due to highly specialized technical requirements or national public goods production) down to very local functions that require working with families, communities and local primary care teams.

56. **In decentralized health systems where there are multiple levels of administration, it is difficult to produce a simple functional assignment for health that gives clear non-overlapping responsibility to different levels of administration.** Many or most functions will be *joint* responsibilities of the national, provincial and municipal/TAO government. For complex public health functions, the process of functional assignment will require detailed technical review of regulations and guidance. In countries with more thorough decentralization to lower levels of administration, there is usually a need for *inter-local structures* to manage larger scale health service delivery and play a coordinating role. However, an alternative available to countries like Thailand that have a national or regional public or social health insurance system, is to use this organization to play a planning and coordinating role across the LAOs, national government ministries and the private sector. Even so, there are other roles of national stewardship and sector leadership that are usually played by the Ministry of Health, and which may require creation of new statutory and financial powers for the Ministry when decentralization occurs. These roles include public health and health system intelligence, public health surveillance and emergency response coordination, strategic human resource development, a range of provider and professional regulation functions, technology assessment, and tools for influencing strategic planning of service provision and provider configuration.

57. **Decentralization offers the health system opportunities as well to strengthen synergies with other sectoral functions at the local level that can influence the social determinants of health and well-being.** Local public health strategies for “healthy settings” (healthy communities, healthy schools, healthy work places) are examples of these. Benefits to the health system from coordination with the LAO functions of developing social support and care for older people, people with disabilities and vulnerable families, should become increasingly important as the population ages, and as chronic illness becomes a greater burden. Coordination also offers potential avenues for increasing effective citizen participation in improving health and health services. Civil society participation in governance and policy is more problematic in the health sector than in many other sectors. This is the case not only because of information asymmetry, and the limited and infrequent contact citizens have with many health services, but also because it is not possible to give either private citizens or small local governments responsibility for financing all health services. Public financing or social insurance schemes need to pool risk at higher levels to achieve financial protection and equity goals. At its

best, local government participation in the governance of health services and management can synergize and support civil society participation in health. For example, local governments can play a role in supporting systematic assessment of health needs and obtaining and conveying citizen feedback on the performance of health services.

Figure 28: Principles for optimal devolution and health sector issues

Ideal principle	Health sector challenges	Implications
Clear, non-overlapping assignment of functions	<ul style="list-style-type: none"> Levels of the system are linked The boundary between levels of healthcare is complex, hard to monitor & changes over time <ul style="list-style-type: none"> Patients cross boundaries A single function may have components of different scale Public health spillovers 	<ul style="list-style-type: none"> Many health responsibilities shared between levels Need interlocal structures or coordination processes “Soft governance” & relationships are important Need linkages across P&P/1°/2°/3° boundaries
Assignment to the lowest level that can internalize costs & benefits of decisions & achieve economies of scale		
Retain national power over national allocative goals	<ul style="list-style-type: none"> National government may have safety & health equity goals that affect <i>all</i> health functions 	<ul style="list-style-type: none"> Detailed regulation review needed for decentralization Lever of national stewardship need change & development
Close linkage between accountability for financing/costs & benefits	<ul style="list-style-type: none"> Need higher level risk-pooling for financial protection & equity goals, leading to some delinking of accountability & moral hazard 	<ul style="list-style-type: none"> Need specific structures & expert/information resources to catalyze accountability to LAOs, citizens & patients
Group congruent and synergistic services	<ul style="list-style-type: none"> Social determinants of health have synergies with many sectors 	<ul style="list-style-type: none"> Major potential areas of benefit to health from devolution

Options for decentralization

Prevention and promotion

58. **Under the forthcoming Third Action Plan for Decentralization, at the very least, there is a good case for Thailand to pursue a more systematic and decisive approach to decentralization of prevention and promotion (P&P) functions and health-related social and community functions.** Problems arising from ambiguity in devolved responsibility for P&P stress the need for specifying in more detail how P&P functions should be decentralized. This should make clear which LAO P&P functions should be mandatory and which functions should be permissive. Many of the more technical P&P functions will need to be joint responsibilities of LAOs and the MOPH. Thus, there is a need for the MOPH and/or other public health technical experts to undertake a detailed functional review and define how best to share and delegate responsibilities.

Primary care and provider networks

59. **There are some potential problems for Thailand from continuing with the current approach to primary care decentralization through voluntary transfer of health centers.** Although HC transfer can yield benefits if CUP coordination and MOPH support is maintained, it is a rather unsatisfactory option from the point of view of health systems management. Transferring an HC to an LAO transfers only an ill-defined and varying subset of the primary care function because, at present, the primary care function is shared between CUP hospitals and HCs. The sharing of responsibility differs in rural and urban areas and varies across provinces; it is evolving as primary care is strengthened. Many health systems experts advocate models for

devolving or de-concentrating *networks* of health facilities. PAOs and municipalities have the geographic reach to manage networks and take on the whole primary care function, or to manage networks that combine general hospital and primary care services. TAOs do not. However, if future legislation creates options to enable groups of LAOs to establish joint service delivery organizations under joint LAO governance, there would be scope to give TAOs a role in governance of health facility networks.

Asymmetric decentralization and piloting

60. **Under the Third Action Plan, some experts and stakeholders are interested in the idea of allowing local voluntary choice from a menu of health decentralization options, leading to asymmetric decentralization.** While there is a clear case for asymmetry to address the very different LAO geographies and capacities, there are some risks in allowing an unmanaged voluntary approach. It will be difficult to achieve clear definition of LAO responsibility under such an approach, and difficult to ensure that fiscal decentralization policies are able to match resources with responsibilities in an efficient and equitable way. Without clarity and without a commitment to appropriate funding of new mandates, it will surely be rational for most LAOs not to volunteer to take on additional health responsibilities. As well, transfers of individual facilities may lock in provider configurations and relationships that need to change over time, and will create obstacles for future network integration. On the other hand, a managed process for funding, supporting and evaluating pilots for a range of models in different LAO settings could have benefits.

Decentralization and health financing

61. **So far, decentralization in the health sector has not been associated with significant shifts in how health services are financed.** Notwithstanding experiments with delegation and increased participation, health financing remains largely centralized. Even in cases where HCs were transferred to LAOs, the MOPH's salary budget for HC staff was transferred to the TAO via MOI, but NSHO's financing for the HC has continued to be provided via the CUP in the usual way.

62. **There is a presumption in the Decentralization Law that devolved services will be financed from non-ring-fenced general transfers and LAO revenues.** If health sector functions were increasingly decentralized, a commensurate shift of *financing* responsibilities to local governments would have far-reaching consequences for the health system. It would require a shift of financial resources from the current financing schemes to local governments, either by expanding general transfers or shifting revenue assignments. This model has the advantage of aligning financing and service delivery responsibilities with the potential for strengthening local accountability. However, many health sector stakeholders are concerned about the risk of inequity in resource allocation to health if this policy is pursued, especially in a context where government transfers currently do not come close to equalizing the spending capacity of local governments. Given the small size of many LAOs, and the significant capacity needs required to effectively purchase or contract for health services, a model of decentralized financing also carries other risks.

63. **There are theoretical and practical arguments for using ring-fenced specific grants or conditional grants for LAO health functions.** Given concerns about both equity and efficiency, a strong case can be made for retaining a strong role for the central government in financing health services, although in ways that enhance local participation and flexibility. Thailand's health financing architecture already provides a platform for developing such an approach. For instance, the NHSO's matching grants for community health funds are a good

example of how to create incentives for LAOs to contribute to national health goals, while preserving local input in needs identification and resource allocation. There is also scope to extend and build on the NHSO's initiatives for LAO participation in regional purchasing. For example, the NHSO's existing primary care purchasing mechanism – the CUP – could conceivably be aligned in territorial coverage with LAO responsibilities, and could build in LAO representation. More generally, the NHSO has the flexibility to delegate budget management responsibility under contract to devolved structures as they emerge, and to adjust the nature and form of that delegation according to local circumstances. This type of model would balance the benefits of local involvement and decision making with the need to ensure effective strategic planning, coordination, resource allocation, and performance management.

F. Conclusions

64. **Thailand can be proud of its achievements in the health sector, but there is need to avoid complacency in addressing the remaining and future challenges.** This paper has highlighted the significant progress that Thailand has made on most metrics of health system performance, including health outcomes, the extent to which health needs are met, financial protection, and reduction in mortality amenable to health care. But it has also pointed to a number of remaining challenges.

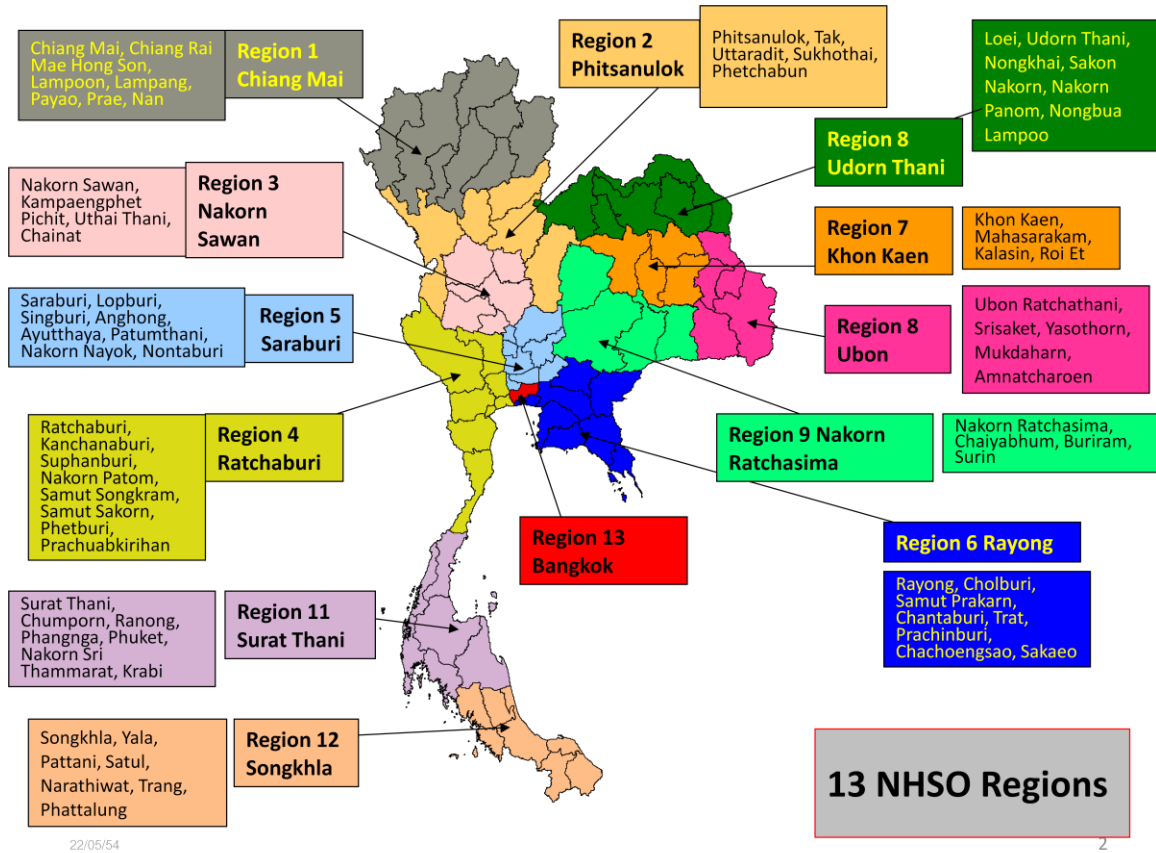
65. **Past reforms have significantly reduced inequalities, but structural disparities in the health system remain.** This report reviewed well-documented variation in utilization and spending across schemes. This variation is, in part, driven by the age profile of members, but differences in utilization rates and the content of care are more important. The CSMBS is widely seen as a key benefit for civil servants with comparatively low salary levels, making it difficult to draw clear equity implications from this analysis. However, the analysis raises some vexing questions about the extent to which care provided under the CSMBS is needed (with efficiency implications if there is significant unnecessary care). It also raises questions about the level of unmet need for UC and SSS members if the additional services under the CSMBS are indeed appropriate. This report also highlighted remaining geographic disparities in the distribution of health workers and other health system resources, but also in the levels of spending per member for the health insurance schemes (in particular the SSS and CSMBS). Again, the implications for equity are not straightforward as the variation in spending may reflect cross-border patient flows, under-servicing in areas of low spending, or over-servicing in areas with high spending.

66. **The expansion of health coverage and benefits has had tangible benefits for the population, but also has significant and persistent fiscal implications.** Government spending on health has increased dramatically over the last 15 years, not only in absolute terms, but also as a share of government spending. There are good reasons to believe that cost pressures in the health system are likely to persist as the Thai population ages, expectations rise, and the capability of the health system expands with the introduction of new procedures and drugs. Thailand has pioneered significant innovations in managing rising cost pressures, and these efforts should continue, of course. Nonetheless, the scope for re-allocating resources from other sectors is likely to be limited, and government revenues are unlikely to rise at a rate that will be able to accommodate demands from the health system. Hence, the country is likely to face some difficult challenges in deciding: how to balance health sector spending with other priorities; what rationing of health services is acceptable; how to manage pressures for increased private spending (out-of-pocket and insurance) and the resulting implications for the health system, and so forth. Luckily, Thailand has strong capacity for health system analysis, and an active civil society

engagement and public dialogue on health sector issues, and is hence well-placed to manage these complex choices.

67. **Decentralization in the health sector presents both risks and opportunities, but most of the risks can be managed if all stakeholders are actively engaged in the process.** Despite a strong political commitment to decentralization, progress in the health sector has been slow. In part, this reflects genuine and well-founded concerns by some health system stakeholders. Decentralization is by no means a panacea for improving health system performance, and it is easy to point to decentralization experiences with detrimental consequences for both equity and efficiency. However, many of the risks of decentralization can be managed. And given that decentralization is proceeding in small and coordinated steps, achieving consensus on what model – or models – to aim for should be possible. As part of this process, in an increasingly decentralized and pluralistic system, there is urgent need to establish more clearly the roles and responsibilities of different stakeholders, including the MOPH, and to establish mechanisms of central oversight and accountability to mitigate the risks associated with further decentralization. The ongoing work towards the Third Decentralization Plan provides an excellent opportunity to make progress on this agenda.

G. Annex 1: Regional Map of 13 NHSO Regions



H. Annex 2: Local Government Revenues and Expenditures: Findings from a Survey of LAOs

Overview of the survey

68. This annex presents the analysis of survey data collected at local government units (LGUs) in Thailand for the purpose of PFMR work. The survey was designed to systematically analyze spending patterns from a sample of LGUs in order to better understand central and local roles in the health sector. LGUs included in the survey are PAOs, City Municipalities, Town Municipalities, Tambon Municipalities, and TAOs.

69. The survey was conducted by Thammasat University in 2010. Survey questionnaires on revenues and expenditures (recurrent and investment) were sent to 7,850 LGUs and data were collected for three years (FY07, FY08 and FY09). Responses were received from 81% LGUs (i.e. 6,360 LGUs) as some LGUs were not able to return the questionnaire or were not willing to do so (Table 4). Finally, 25 outliers were dropped from the sample because they presented extreme values, most likely as a result of data entry errors.³⁷

Table 4: Response rate to the survey according to local government levels

	Overall survey response rate	% of sample with health data	% of LGUs with health data
PAO	68%	83%	56%
City Municipality	88%	88%	77%
Town Municipality	79%	88%	70%
Tambon Municipality	83%	83%	69%
TAO	81%	72%	59%
TOTAL	81%	75%	61%

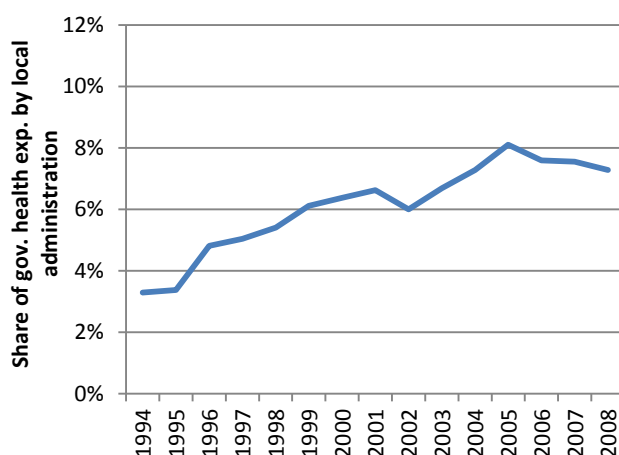
Source: LGU expenditure survey

Central versus local spending on health

70. LGU survey data on the share of total government health spending by local administrations provides lower estimates than that of the National Health Accounts (NHA). On the one hand, NHA data show an increasing share of health spending by local government reaching 7% in 2008 (Figure 29). On the other hand, LGU survey data suggest that LGUs spend only 3 to 4% of total government health spending.

³⁷ Two thirds of the outliers were either tambons or TAOs.

Figure 29: Share of total government spending on health by local administration (NHA)



Source: Thai National Health Accounts

Total health spending by local government

71. Tambon municipalities and TAOs account for 60% of total local health spending. A total of 85% of local health expenditures are recurrent expenditures and this share reaches 95% in a City Municipality. Overall, local health spending accounts for 3.2% of total spending at the local level. This share varies according to the level of LGU, from 1.7% in TAOs, to 6.2% in City Municipalities (Table 5).

Table 5: Total Health spending by local government (FY09)

	Total health exp. (sample)	Share of total local health spending	Estimated total health exp.* (all LGUs)	Share of recurrent in total health exp.	Share of health exp. in total local exp.
PAO	1,090	16%	1,938	85%	3.4%
City Municipality	662	10%	856	95%	6.2%
Town Municipality	1,010	15%	1,446	88%	5.5%
Tambon Municipality	2,440	35%	3,546	88%	4.7%
TAO	1,720	25%	2,937	92%	1.7%
TOTAL	6,920	100%	11,346	89%	3.2%

* Note: scaled up estimate based on assumption that the working sample is representative of the universe of local administrative units.

Source: LGU expenditure survey and authors' calculations

LGU spending by broad categories

72. Almost two thirds (63%) of recurrent spending is on compensation (i.e. salary payment for fixed term staff, contract staff and other types of compensation) and miscellaneous expenditures at LGUs. There is a large variation in compensation expenditure according to the level of LGU: it is very low at the PAO level (7% of total expenditure) but represents half of expenditure in Tambon Municipalities and two thirds of expenditure in City Municipalities. Subsidy expenditures also vary significantly, from 3% in Town Municipalities to 37% in PAOs. Finally, equipment expenditure tends to represent a higher share of total expenditure at the lower levels of LGUs: ranging from 8% at the PAO level to 20% at the TAO level (Table 6).

Table 6: Breakdown of recurrent expenditures by LGU type (FY09)

	Compensation	Equipment	Subsidy	Miscellaneous	Utility & other
PAO	7%	8%	37%	40%	7%
City Municipality	66%	8%	12%	12%	2%
Town Municipality	58%	13%	3%	24%	2%
Tambon Municipality	49%	15%	9%	24%	3%
TAO	21%	20%	31%	24%	3%
TOTAL	38%	14%	18%	25%	4%

Source: LGU expenditure survey and authors' calculations

73. Almost half of investment spending at the LGU level is on goods and services (46%) and this category is the main investment expenditure category for all LGUs. Expenditure on land and buildings is relatively low (one fifth of investment expenditure or less) with the exception of City Municipalities which spend 43% of their investment budget on land and buildings. Cash reserves stand for another major expenditure category, except for City Municipalities (Table 7).

Table 7: Breakdown of investment expenditures by LGU type (FY09)

	Goods and services	Land and buildings	Specific grants	Cash reserves	Borrowing	Other
PAO	37%	14%	19%	27%	0%	3%
City Municipality	55%	43%	0%	3%	0%	0%
Town Municipality	38%	22%	12%	27%	0%	1%
Tambon Municipality	48%	17%	5%	20%	8%	2%
TAO	54%	14%	9%	22%	0%	1%
TOTAL	46%	18%	10%	22%	3%	2%

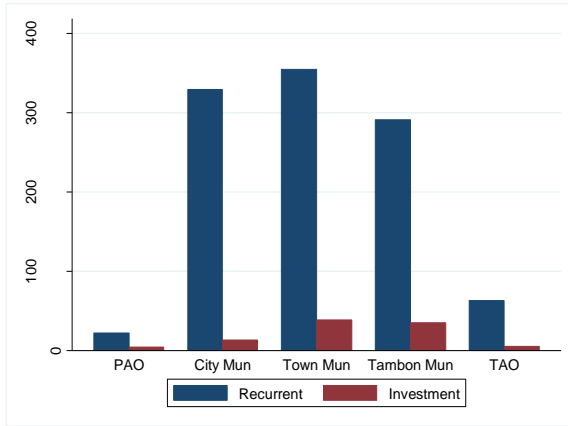
Source: LGU expenditure survey and authors' calculations

Per capita health spending by local government unit

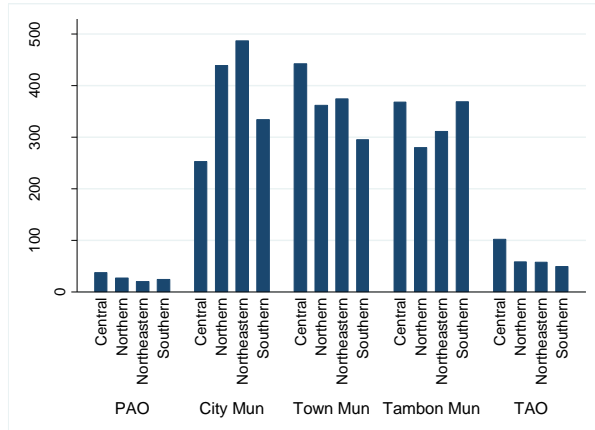
74. Per capita spending on health is higher at municipal levels than at the PAO and TAO levels. It amounts to about 300 Baht per capita at municipality levels, against 22 and 63 Baht at the PAO and TAO levels, respectively. In addition, although very low at all levels, per capita investment spending is also higher at municipality levels, thus following similar patterns for recurrent spending. Further analysis of regional patterns in total per capita spending on health does not enable one to identify any clear variation from one region to another (Figure 30).

Figure 30: Health spending per capita by LGU level and region

(c) Health expenditure per capita by type of LGU (FY09)



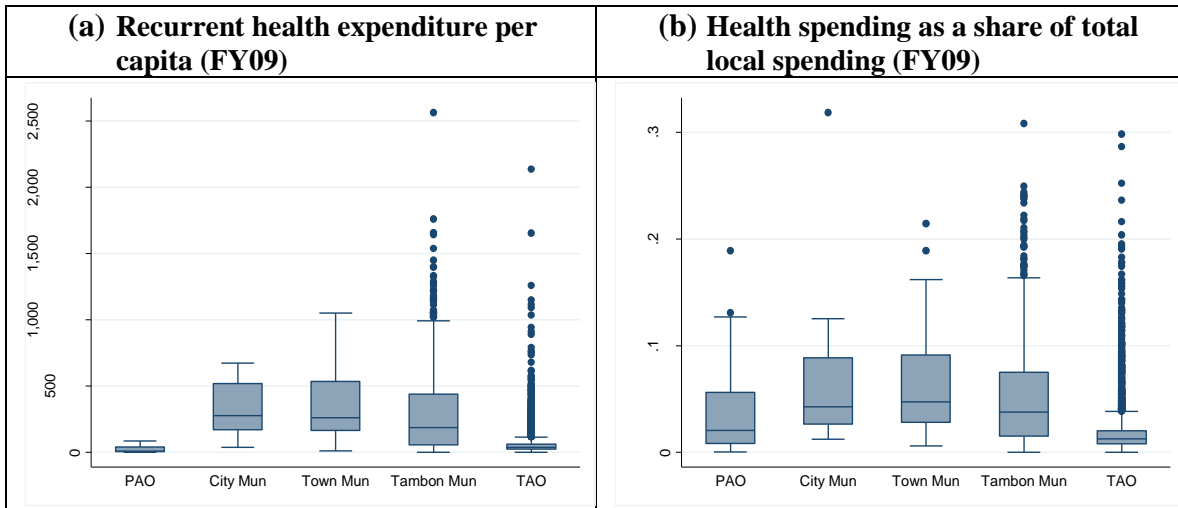
(d) Total health expenditure per capita by type of LGU and region (FY09)



Source: authors' analysis using LGU expenditure survey data
 Note: population data is from CGD database

75. It is important to note, however, that the analysis of average per capita health spending by LGU type hides important variations within one type of LGU. For instance, there are many outliers with high recurrent spending in Tambon municipalities and TAOs. Similarly, although most LGUs have a low level of health spending in their total spending, some Tambon Municipalities and TAOs reported a high share of expenditure allocated to health.

Figure 31: Variation in per capita LGU spending on health



Source: authors' analysis using LGU expenditure survey data
 Note: population data is from the CGD database