Expenditure and Its Structure on Medical Treatment of Government Officials: a Chiang Mai Case

Siriporn Burapadaja*, Duangporn Winijkul, Sakchai Ausayakhun and Sirivipa Piyamongkol

Faculty of Pharmacy, Chiang Mai University, Chiang Mai 50200, Thailand

**Corresponding author, E-mail: siriporn@pharmacy.cmu.ac.th*

ABSTRACT

A problem of expenditure on medical treatment of government officials was due to inefficient management. To solve this problem requires empirical information of expenditure structure. This study aimed to examine such expenditure and its structure. A retrospective review on one fiscal year's financial documents claimed for medical treatment by government officials and interviewing financial officials for data collection were conducted in a sample (n=371) affiliated to a district public health office and a district hospital in Chiang Mai province, Thailand. Issues examined were expenditures based on frequency of hospital visit or admission, type of patient, group of beneficiary and hospital charge items. Results revealed that the total expenditure of 2,420,407 Baht originated from 1626 outpatient visits and 114 inpatient admissions. This expenditure consisted of outpatient 68.86% and inpatient 31.14%. Government officials, their parents, spouse and children shared 38.11 %, 53.18%, 3.83% and 4.88% respectively. Based on charge items, the expenditure comprised of medicine 55.76%, medical service 19.26% and bed 10.34%. The rest were laboratory 6.44%, material 4.76% and X-ray 3.44%. The findings indicated that medicine charge was the main structure of expenditure. This study suggested that by specifying the ceiling price of medicine that would be paid could result in more efficient management.

Keywords: Health expenditure, Medical treatment, Government officials

INTRODUCTION

World Health Organization has considered health financing as a measure to assess health system attainment and performance of country members. Fair financial contribution and efficient management of financial resource are objectives of health system for people (World Health Report, 2000). To meet these objectives, most country members including Thailand have conducted several actions such as essential drug list establishment, health reform and health insurance coverage (Jowett et al., 2003; Jafarov and Laing, 2004; Palmer et al., 2004; Jeong, 2005; Cawley and Simon, 2005).

Thailand has also established various schemes to provide wider health insurance coverage. Currently, there are 7 main schemes to insure health care when people have health problems (Thamatatwaree, 2001). Included are Social Security Scheme, Workman's Compensation Scheme, Low-income Card Scheme, Voluntary Health Card Scheme, Private

Health Insurance, Traffic Accident Protection Scheme, 30 Baht Program and Civil Servant Medical Benefit Scheme (CSMBS). These schemes have differences in nature, population coverage, population characteristics, source of fund, finance body and payment mechanism. CSMBS is a fringe benefit for medical treatment covering current government officials and their dependents and pensioners. This scheme has been funded from general tax revenue, operated by the Comptroller General's Department, Ministry of Finance, and pays according to fee-for-service. Though CSMBS is the initial health insurance in the country, there are still several problems especially fraud claims and expenditure escalation (Donaldson et al., 1999a). It is quite difficult to screen frauds from beneficiaries in millions. Rather, it seems plausible to manage expenditure escalation. Expenditure on medical treatment has increased from 16,440 million Baht in 1998 to 20,481 million Baht in 2003, in spite of a decline in number of government officials from 1,628,046 in 1998 to 1,426,471 in 2003 (Donaldson et al., 1999a; Finance Statistics, 2003). Government has tried to solve this problem through some means such as limitation of some benefit and mutual payment in some conditions (Donaldson et al., 1999b; Fiscal Year Report, 2003).

A study on CSMBS in Pitsanulok province revealed that government officials and their dependents as inpatient accounted for 67–70% of the total expenditure during 1993–1995 (Tungcharoensathien et al., 1995a). A survey in 1995 estimated that there were about 6.6 million beneficiaries using CSMBS (Tungcharoensathien et al., 1995b). Another study on CSMBS in 5 provinces also revealed that government officials themselves as outpatient covered about 40–50%, compared to about one-third as inpatient (Lerttiendumrong and Tungcharoensathien, 1999). These studies could give important information about expenditure on medical treatment, but an update one is also necessary. Thus this study aimed to examine expenditure and its structure on medical treatment of government officials in the fiscal year 2004 in order to contribute current and essential information for managing such expenditure efficiently.

MATERIALS AND METHODS

Setting and Sample

A retrospective review of expenditure on medical treatment of government officials was carried out in January–March 2005 in Chiang Mai province, Thailand. Based on distance from the province, all districts were divided into three levels, i.e., less than 50 km., 50–100 km. and more than 100 km.. A district of each level was selected randomly to obtain three districts. These districts were contacted to participate in this study. Only one district agreed with the cooperation. This district is less than 100 km. far from the province. The study sample (n=371) was the government officials (civil servants and permanent employees) affiliated to district public health office and district hospital. The expenditure on medical treatment claimed by this sample was examined and analyzed by descriptive statistics.

Data collection

Interviewing financial officials

This study asked for permissions to collect data from head of province public health office and director of district hospital. Interviewing financial officials was undertaken in order to know and understand precisely the order and process to draw money for such expenditure.

Government is responsible for expenditure originated from government officials and their dependents. Dependents included legal spouse, three legal children aged up to 18 years and parents. These persons were referred to as beneficiary. A form to collect data was developed from this interviewing. As outpatient of any government hospital, beneficiary had to pay for hospital charge first that could contain a charge item or several ones. After that, government officials sent receipt of themselves and their dependents and filled in the form to reimburse the hospital charge from government at their workplace, i.e. district public health office or district hospital. Financial officials of both workplaces collected, examined and processed these financial documents and sent it to province public health office. Therefore, province public health office was the source of outpatient data. Later, government officials would receive their reimbursement. Outpatient of private hospital could not draw money back from government. As inpatient of government or private hospital, government officials had to inform their workplace to refer beneficiary to hospital. In this case, government officials were not necessary to pay for hospital charge. Hospital would be on the process to draw money from government. In this study, inpatient expenditure covered only inpatients of this district hospital because we could not know if there was any beneficiary seeking health care at other hospital. Financial documents of inpatient were accumulated at the district hospital. As a result, review on financial documents of outpatient and inpatient expenditure was carried out at province public health office and district hospital respectively.

Review on financial documents

Expenditure on medical treatment of the fiscal year 2004 (October 2003–September 2004) was examined through financial documents. Expenditure was collected according to frequency of hospital visit and admission, types of patient (outpatient and inpatient), groups of beneficiary (government officials, their parents, spouse and children) and charge items. Items hospital charged were categorized as follow: medicine, laboratory (lab), X-ray, material, medical service and bed. Medicine covered all prescription drugs for therapeutic reason. Laboratory included all laboratory tests for medical diagnosis such as blood test, urine test and specimen test. X-ray was the charge of X-ray and/or related technology used to see and investigate the body. Material was the charge of non-medicine material such as artificial body part, splint and syringe ball. Medical service covered all service charges for curative purpose such as physical therapy, surgery and anesthesia while bed included bed, room facility and food. All data were collected with anonymity of beneficiary.

RESULTS

Outpatient expenditure and its structure

There were 1626 visits of outpatient consisting of 781 (48.03%) of government officials and 845 (51.97%) of their dependents. The outpatient expenditure was 1,666,608 Baht comprising of 635,813 Baht (38.15%) for government officials and 1,030,795 Baht (61.85%) for their dependents. Among dependents, expenditures on parents, spouse and children were 868,531 Baht (52.11%), 71,776 Baht (4.31%) and 90,488 Baht (5.43%) respectively. Based on charge items, expenditures on medicine, laboratory, X-ray, material and medical service were 1,233,364 Baht (74.00%), 106,966 Baht (6.42%), 50,510 Baht (3.03%), 42,324 Baht (2.54%) and 233,444 Baht (14.00%) respectively. The average expenditure per

visit of outpatient was about 1025 Baht (1,666,608/1626). These data are shown in Table 1.

Table 1. Outpatient expenditure and its structure (Baht).

Beneficiary	Visit	Medicine	Lab	X-ray	Material	Medical service	Expenditure (%)
Government officials	781	428,892	40,675	18,970	30,028	117,248	635,813 (38.15)
Dependents:	845	804,472	66,291	31,540	12,296	116,196	1,030,795 (61.85)
Parents	604	687,567	58,595	30,380	8,027	83,962	868,531 (52.11)
Spouse	74	49,618	4,606	960	3,278	13,314	71,776 (4.31)
Children	167	67,287	3,090	200	991	18,920	90,488 (5.43)
Expenditure (%)	1626	1,233,364 (74.00)	106,966 (6.42)	50,510 (3.03)	42,324 (2.54)	233,444 (14.00)	1,666,608 (100.00)
Average (Baht/visit)							1,024.97

Inpatient expenditure and its structure

There were 114 admissions of inpatient, 46 (40.35%) of government officials and 68 (59.65%) of their dependents. The inpatient expenditure was 753,799 Baht consisting of 286,589 Baht (38.02%) for government officials and 467,210 Baht (61.98%) for their dependents. Among dependents, expenditures on parents, spouse and children were 418,685 Baht (55.54%), 20,887 Baht (2.77%) and 927,638Baht (3.67%) respectively. According to charge items, expenditures on medicine, laboratory, X-ray, material, medical service and bed were 116,256 Baht (15.42%), 49,004 Baht (6.50%), 32,740 Baht (4.34%), 72,886 Baht (9.67%), 232,713 Baht (30.87%) and 250,200 Baht (33.19%) respectively. The average expenditure per admission was about 6,612 Baht (753,799/114). These data are depicted in Table 2.

Table 2. Inpatient expenditure and its structure (Baht).

Beneficiary	Adm*	Medicine	Lab	X-ray	Material	Medical service	Bed	Expenditure (%)
Civil servants	46	18,956	15,844	22,740	16,668	114,381	98,000	286,589 (38.02)
Dependents:	68	97,300	33,160	10,000	56,218	118,332	152,200	467,210 (61.98)
Parents	52	92,778	26,750	9,050	54,880	108,227	127,000	418,685 (55.54)
Spouse	5	3,084	1,540	800	627	5,236	9,600	20,887 (2.77)
Children	11	1,438	4,870	150	711	4,869	15,600	27,638 (3.67)
Expenditure (%)	114	116,256 (15.42)	49,004 (6.50)	32,740 (4.34)	72,886 (9.67)	232,713 (30.87)	250,200 (33.19)	753,799 (100.00)
Average (Baht/adm)								6,612.27

*admission

Total expenditure and its structure

The total expenditure was 2,420,407 Baht, consisting of 1,666,608 Baht (68.86%) for outpatient and 753,799 Baht (31.14%) for inpatient. Based on beneficiary, government officials' expenditure was 922,402 Baht (38.11%) while that of dependents was 1,498,005 Baht (61.89%). According to charge items, expenditures on medicine, lab, X-ray, material, medical service and bed were 1,349,620 Baht (55.76%), 155,970 Baht (6.44%), 83,250 Baht (3.44%), 115,210 Baht (4.76%), 466,157 Baht (19.26%) and 250,200 Baht (10.34%) respectively. These data are demonstrated in Table 3 and Table 4.

Table 3. Total expenditure based on type of patient (Baht).

Beneficiary	Outpatient	Inpatient	Expenditure (%)
Government officials	635,813	286,589	922,402 (38.11)
Dependents:	1,030,795	467,210	1,498,005 (61.89)
Parents	868,531	418,685	1,287,216 (53.18)
Spouse	71,776	20,887	92,663 (3.83)
Children	90,488	27,638	118,126 (4.88)
Expenditure (%)	1,666,608 (68.86)	753,799 (31.14)	2,420,407 (100.00)

Table 4. Total expenditure based on charge items (Baht).

Beneficiary	Medicine	Lab	X-ray	Material	Medical service	Bed	Expenditure (%)
Government officials	447,848	56,519	41,710	46,696	231,629	98,000	922,402 (38.11)
Dependents	901,772	99,451	41,540	68,514	234,528	152,200	1,498,005 (61.89)
Expenditure (%)	1,349,620 (55.76)	155,970 (6.44)	83,250 (3.44)	115,210 (4.76)	466,157 (19.26)	250,200 (10.34)	2,420,407 (100.00)

DISCUSSION

Type of patient

In this study, outpatient expenditure comprised of nearly 70% of the total. In contrast, the report from Pitsanulok in 1993-1995 indicated that inpatient expenditure shared about 70% of the total. Proportion of total expenditure based on patient type might vary according to times, places and beneficiary. However, this current information could provide a shift of outpatient expenditure.

Major beneficiary

Based on class of beneficiary, parents of government officials shared 53% of the total expenditure, the greatest percentage, while government officials consumed 38%. Thus parents were the major beneficiary who received fringe medical benefit because they had government official as their son or daughter. Government should particularly be concerned about this group of beneficiary in order to know and understand their health-expenditure pattern.

Main charge item

Of outpatient expenditure, medicine covered 74%, the highest expenditure. But it decreased to 15.42 % in inpatient expenditure. However, medicine accounted for 55.76% of the total expenditure. Likewise, a report in China revealed that medicine consumed more than 50 % of hospital expenditure in low- and middle- income countries (Meng et al., 2004). This finding suggested that medicine was the key part accountable for expenditure on medical treatment. Thus it is necessary to concern medicine charge seriously. How to control medicine expenditure is an important issue to consider. Medicine charge depends on several factors such as amount of medicine prescribed, the price each hospital charges and type of manufacturer. Amount prescribed usually relies on treatment reason made by physician. So this factor is not eligible to control. Likewise, profit from medicine charges is the self determination of each public or private hospital.

In several countries including Thailand, a generic medicine can be produced in various trade names according to manufacturers. Various trade names can lead to different price. In addition, medicine is a product that its price is free in the market and there is no official regulation on medicine price. As a result, a wide range of medicine price can occur especially between medicines produced by local manufacturers and those by foreign ones. Medicines made by local often have lower prices than those made by foreign. For example, an antibiotic of 150 mg roxithromycin tablet by the former has a price of 4.5 Baht compared to 20 Baht by the latter. The price of 10 mg. nifedipine capsule, a cardiovascular agent, by local is 2 Baht while that by foreign is 12 Baht. Similarly, the price of 5 mg. glibenclamide tablet, an antidiabetic agent, by the local is 0.5 Baht while by foreign is 3 Baht (Luengarpa, 2004). Four to six folds in price occurs in these medicines which are in the Essential Drug List and can be reimbursed. Furthermore, these groups of medicines are often prescribed for common infection and chronic diseases: hypertension and diabetes mellitus. A wide range of price and consistent payment for medicines used in chronic diseases can result in expenditure escalation. The Comptroller General's Department has to pay for a generic medicine with wide range of prices. This indicates inefficient management in using finance resource.

More efficient management

Since Thai Food and Drug and Administration (FDA) has required that all manufacturers conform official good manufacturing practice in order to guarantee the medicine quality, this requirement could make medicines released in the market and hospital to have a certain standard of quality assured by FDA. Therefore medicines with similar standard quality could have comparable prices. This concept could lead to a way to manage finance resource efficiently by specifying the ceiling price of medicine that could be reimbursed. Beneficiaries should pay for themselves the rest of the price. For example, if a medicine tablet is charged at the price of 10 Baht and its ceiling price is 7 Baht, in this case, government would pay only 7 Baht and beneficiary would pay 3 Baht. The same generic medicine charged for 5 Baht would be paid back 5 Baht by government. By this means, government would pay the same generic medicine with the similar price. Expenditure escalation could be declined and management of financing resource could be more efficient.

Limitations

Since inpatient expenditure covered only beneficiaries who were inpatient of this district hospital, the actual total expenditure might be greater than that reported in this study. Data about how many actual government officials claimed for expenditure on medical treatment could not be collected because of anonymity of beneficiary.

CONCLUSION

This study revealed current expenditure and its structure on medical treatment of government officials affiliated to two government offices in Chiang Mai, Thailand. Parents of government officials were major beneficiary of this expenditure. According to charge items, medicine was the main expenditure. Thus, it was necessary to consider this structure seriously, especially its prices. This study suggested that by specifying the ceiling price of medicine that would be claimed could lead to more efficient management of expenditure on medical treatment of government officials.

REFERENCES

Cawley J., and K.I. Simon. 2005. Health insurance coverage and the macroeconomy. Journal of Health Economics 24: 299–315.

Donaldson, A., S. Panarunothai, and V. Tungcharoensathien. 1999a. Health financing in Thailand: Technical Report. Management Sciences for Health, Health Systems Research Institute, Ministry of Public Health.

Donaldson, A., S. Panarunothai and V. Tungcharoensathien. 1999b. Health financing in Thailand: Technical Report. Health Systems Research Institute Research Report, Health Systems Research Institute, Ministry of Public Health. (in Thai).

Finance Statistics: Fiscal Year 2003. The Comptroller General's Department, Ministry of Finance (in Thai).

Jafarov, A., and R. Laing. 2004. Developments of essential drug lists in four central Asian republics: comparison and discrepancies. Oral presentation at Second International Conference on Improving Use of Medicine, Chiang Mai.

Jeong, H.S.. 2005. Health care reform and change in public-private mix of financing: a Korean case. Health Policy (in press).

Jowett, M., P. Contoyannis, and N.D. Vinh. 2003. The impact of public voluntary health insurance on private health expenditures in Vietnam. Social Science and Medicine 56: 333–342.

Lerttiendumrong, J., and V. Tungcharoensathien. 1999. Claims outpatient and inpatient service under civil servant medical benefit scheme 1997. Health System Research Institute Research Report, Health System Research Institute, Ministry of Public Health (in Thai).

Luengarpa, L. (ed). 2004. Hospital Formulary, Maharaj Nakorn Chiang Mai Hospital. Chiang Mai: Chiang Mai Sangsilp Publisher (in Thai).

Meng, Q., C. Rehnberg, N. Zhuang, Y. Bian, G. Tomson, and S. Tang. 2004. The impact of urban health insurance reform on hospital charges: a case study from two cities in China. Health Policy 68: 197–209.

Palmer,N., D.H. Mueller, L. Gilson, A. Mills and A. Haines. 2004. Health financing to promote access in low-income settings-how much do we know?. Lancet 364: 1365–1370.

Thamatatwaree, J. (ed). 2001. Health Insurance Systems in Thailand. Health System Research Institute, Ministry of Public Health (in Thai).

Tungcharoensathein, V., N. Tuntigate, and S. Kongsawat. 1995a. An enquiry on civil servant medical benefit scheme: the case of Pitsanulok Province 1995. Health System Research Institute Research Report, Health System Research Institute, Ministry of Public Health (in Thai).

Tungcharoensathien, V., N. Tuntigate, and S. Pitayarungsarit. 1995b. The morbidity survey of current officials, pensioners and their dependents under civil medical benefit. Health System Research Institute Research Report, Health System Research Institute, Ministry of Public Health (in Thai).

World Health Report 2000. Health systems: Improving performance. 2000. World Health Organization, Geneva.