

## CHAPTER V

### DISCUSSION

In order to achieve in-depth knowledge for the comprehension of the effects of payment incentive of various health insurance schemes with on quality of care in terms of drug use and care process, this study endeavors to elucidate how health care providers response to health fee-for-service and capitation payments and a risk to health care quality. The three major components of the information are from

1. health care professional interviews and document reviews
  - hospital management and policy on drug use and care process
  - perceptions and concerns of health care professionals on financial problems of hospitals and impact of the 30-Baht Policy implementation
2. routine dispensing database of each hospital
  - number of patients in each health insurance scheme
  - patterns of drug use
3. medical records
  - patterns of care process.

#### **Hospital Management and Policies on Drug Use and Care Process**

Concerning hospital management and policy on drug use and care process, health care providers respond to payment incentives differently. Some hospitals, normally without financial problems, develop official policy on drug use with the equity care for all patients, regardless of health insurance scheme. On the contrary, some hospitals need to contain their health care cost by official policy with obvious inequities in drug use, use more health care resources for the FFS patients but restrict resources use for capitation patients owing to their financial problems. However, all hospitals have official policy on equity care, in terms of procedures of laboratory tests and physical examinations, for all patients.

Hospital management for capitation patients seems to be more efficient than for fee-for-service patients in the aspect of providing GP for first visit of patients in order to screen and manage uncomplicated illness before referring to specialists, especially for the SSS patients that hospitals provide separate unit of service settings for. In addition, physicians had more incentives to take care of the SSS patients

owing to the extra revenue from this scheme. However, the official standard treatment guidelines implementation, which is a required manner to assure quality of care, is not taken into consideration of hospitals, equally for patients in every scheme.

It seems that patients in every scheme have potential for obtaining health care services with at-risk quality without standards of care. The capitation patients in hospitals with financial problems, moreover, are more likely to improve efficiency of drug use according to the restriction policy on high cost drugs. Simultaneously, they also take more risk of under treated owing to cost-containment policy on drug use with no guarantee process for satisfactory quality care.

Three hospitals in the study have official policies to provide equal care quality in terms of drug use and care patterns regardless of health insurance schemes and the implementation of the 30-Baht Policy. However, the rest one hospital, with severe financial problems, has obvious policies to contain cost of care for capitation patients, especially the 30-Baht patients.

### **Perceptions and Concerns of Health Care Professionals on Financial Problems of Hospitals and Impacts of the 30-Baht Policy Implementation**

Regarding the impacts of the 30-Baht Policy implementation, most of the physicians and other health care professionals have their own perceptions that the allocated budget for the 30-Baht patient itself has been insufficient and the hospitals might have a possibility to confront a financial problem. The perceptions occur even in the hospitals with no financial problem that can shift costs to other schemes or can require extra-support from the government like Hospital 3, as a pilot hospital for this policy. Consequently, the majority of physicians have their own concern to prescribe more inexpensive ED drugs for the capitation patients and to expand more opportunities for the fee-for-service patients to access new high cost drugs in addition to the direct concern for the official hospital policy on drug use.

According to these perceptions and concerns, physicians have an incentive to consider more efficiency in drug use for the capitation patients whereas an incentive to overuse drugs for fee-for-service patients with potential for physician induced demand that is inefficiency and a waste of money in health care systems. On the other side of the coin, treatments for fee-for-service patients may take lower risk-at care quality than for capitation patients. Especially for the hospitals with financial problems and without standard guarantee of care, the synergy between the official cost containment policy and the physicians' concern may harm to quality of care in health systems. In addition, for the risk of care quality, particularly medical technical quality, patients themselves may not be able to perceive in order to protect themselves due to inequalities in information.

Prescribers have concern to provide inexpensive ED drugs to capitation, while no restricted use of drug was provided to fee-for-service patients,

regardless of official policies on drug use and care process. In addition, the intense burden of a rise in number of patients seems to be an important barrier to improve quality of care in some hospital with a momentous brain drain problem.

### **Number of Patients in each Health Insurance Scheme**

Regarding the number of patients, time series plot was performed for number of diabetic outpatients per month and number of visit per patient in order to grasp dynamic changes overtime. From the plots in [Figure 4.1](#), [Figure 4.4](#), [Figure 4.7](#), and [Figure 4.10](#) illustrate remarkable increases in number of patients, especially the 30-Baht patients, in every hospital after the 30-Baht Policy implementation. However, the increases number of the 30-Baht patients in some hospitals seemed probable to relocate from the fee-for-service group of patients owing to the comparable changing rates. Concomitantly, some hospitals had both increasing rates of the 30-Baht and the fee-for-service patients. There were potential possibilities that the increases patients may move from the other districts of the provinces or the former insured patients may obtain more accessibility to health care services according to a goal of the the Universal Health Care Coverage Policy or the 30B-Policy in enhancing accessibility of people to health care services.

For the SSS patients, the 30-Baht Policy implementation seems to have no considerable effect on this scheme because the patterns of changes are constant for both before and after the policy implementation. Although many hospital had policies to promote their health care services to the SSS patients, the increases in number of diabetic outpatients in the study seemed trivial. It was possible that the included patients may be in the young people with age lower than 41-60.

About the number of visits per patients from the plots in [Appendix B](#), fairly constant and equal levels and trends for every scheme in every hospital, regardless of schemes or before and after the 30-Baht Policy implementation are noticed. Except for the level for the CAP:30B-GB patients in Hospital 1, an increasing trend is detected. The reason for this increasing trend seems to be owing to the restriction policy on period of prescription for this group of patients.

This information visualizes an increasing in burden of patient care in every hospital after the 30-Baht Policy implementation, especially for Hospital 1 that had increases in both number of patients and number of visits per patient. On the other point of view, the significant decreases in number of fee-for-service patients, who used to pay for every item of health care services to hospitals, may cause a negative effect on incomes of hospitals. In synergy with increases in number of 30-Baht capitation patients, with insufficient budget allocated in perceptions of health care professionals, may have a potential to amplify the severity of financial problems of hospitals.

## Patterns of Drug Use

From the plots of average number of drug items prescribed per visit in [Appendix B](#), the overall differences in average number of drug items prescribed among patients in different health insurance schemes seem to be unapparent and insignificant in magnitude for some hospitals, therefore, the differences might be found in terms of type and cost of drug prescribed. Accordingly, time series analyses are performed for patterns of other drug use variables including average charge of drugs prescribed per visit, proportion of charge of non-ED drugs prescribed and average proportion of visits with original high cost drugs.

Although the four studied hospitals have had differences in size of hospital, location and/or drug use policy, fairly same behavioral patterns are discerned. Concerning average charge of drugs prescribed per visit, the FFS patients in all four studied hospitals have uppermost level than other scheme regardless of the policy on equality or inequality drug use. After the 30-Baht Policy implementation, in addition, the increasing trends are detected in every hospital, except for Hospital 4 with a decreasing trend. For the CAP:30B-GB patients of all four hospitals, the common patterns of a drop in level after the policy implementation and a constant afterward are distinguished, particularly of Hospital 1. For the CAP:SSS patients, the patterns seem to be stable.

Concerning impact of the 30-Baht Policy implementation, patterns of drug use in terms of average charge of drugs per visit and proportion of non-ED drug use for SSS patients seemed not to be obviously affected. For the GB patients compared to the 30-Baht patients in the hospital without the cost-containment strategy on drug use, the patterns of drug use between before and after the 30-Baht Policy implementation were not illustrated the perceptible changes. On the contrary, for the hospitals with discrepancy the cost-containment policy on drug use for the 30-Baht patients, expenses of drug use for the 30-Baht patient was obviously decreased compared to the GB patients before the Policy implementation.

For the interactions of drug use among schemes, the increase in average charge of drugs per visit for the FFS patients after the 30-Baht Policy implementation together with the comparable decrease for CAP:30B-GB patients at the same time may express a cost-shifting from the low profitable capitation scheme to the high profitable fee-for-service scheme. This effect is quite obvious in Hospital 1 which had a tremendous increase in number of the 30-Baht patients and a magnificent decrease in the number of fee-for-service patients at the same time, right after the 30-Baht Policy implementation, with increasing in the severity over time. The time series analysis for the proportion of charge of non-ED drugs, mostly the expensive drugs, per visit are also confirmed the patterns of drug use mentioned.

Concerning the proportion of visits with original high cost with single source drugs, the overall effects of increasing use of these drugs in fee-for-service patients while decreasing in capitation patients are extremely common. As for Thiazolidinediones oral antidiabetic drugs with an advantage to increase peripheral insulin sensitivity, patients who obtain these drugs may delay a start on insulin injection. The higher in quality of life for diabetic patients with routine oral drug use

than with routine insulin injection is, definitely, the desirable care for every patient. On the one hand, in some cases of immoral cost-containment; it is fair to say that capitation patients with a lower opportunity to access these drugs have a risk to obtain inferior quality of care. On the other hand, in some cases of physician induce demand; it is also fair to say that fee-for-service patients with a higher opportunity to access these drugs generate waste, ineffectiveness, in health care resources use in health care systems. Therefore, a mechanism to monitor health care quality in terms of both over-treatment and under-treatment is exceedingly necessitated in order to guarantee cost-effectiveness with satisfactory care quality.

The findings for both Angiotensin II antagonist antihypertensive drugs and clopidogrel and ticlopidine antiplatelet drugs are also confirmed the stated situations for the advantages of renal protection and cardiovascular events prevention in aspirin-intolerant cases, respectively.

As for the opportunity to access original multi-source drugs, statins antihyperlipidemic drugs is a representative for this patterns. Statins were the original single source drugs up until the year 2001. After the local brands of one of statins, simvastatin, were launched into the markets, fee-for-service patients still had an opportunity to access the original statins much more than capitation patients. Normally, every statins drug is head-to-head comparable. Therefore, once the local brands of a statins were launched, it should be able to substitute all original statins. Accordingly, the use of original statins, mostly in fee-for-service patients, seems not to be a cost-effective one. On the contrary, if the local brands have problems in quality of drug products, the use of original statins seems to be the appropriate one. In order that, a mechanism to guarantee the quality of drug products is also crucial to achieve satisfactory care quality.

The overall findings on drug use from this part of study are that health insurance payment mechanisms have remarkably distinct effects on patterns of drug utilization. Fee-for-service payments provide an incentive to utilize more expensive drugs compared to capitation payments. However, the reasons behind these findings can be both ways: inefficient drug use for fee-for-service patients and/or under-use of drugs for capitations patients. These claims can be proved by a research with more clinical information to justify the appropriateness of drug utilization by comparing with the acceptable standard treatment guidelines.

### **Patterns of Care Process**

Diabetic care needs process of required specific laboratory tests and physical examinations in order to monitor disease progression, effects of drug use and/or other treatments, co-morbidity and complications. Patterns of monitoring process provided to patients for glycemic control, nephropathy complication, retinopathy complication, and peripheral neuropathy complication seem to be tremendously lower than the recommendations in standard treatment guidelines with

no obvious effects of health insurance schemes and the 30-Baht Policy implementation. As for hyperlipidemia monitoring, more patients obtained the monitoring procedure conformed to the guidelines and a noticeable effects of health insurance schemes. In some hospitals, fee-for-service patients obtained more tests than capitation patients. The effects of the 30-Baht Policy implementation on every kind of monitoring process were indistinct.

The overall findings on process of care from this part of study are that health insurance payment mechanisms have indistinguishable effects on patterns of care process provided to patients. Except for some hospitals, some monitoring procedures were provided more to fee-for-service patients compared to capitation patients. However, every monitoring procedure was provided lower than the recommendations. Furthermore, some procedures were hardly ever provided to patients that are serious harm to quality of care. Lacking of hospital official standard treatment guidelines for diabetic care or knowledge matters are strong possibilities that brought about the severe under-treatment in all patients regardless of payment incentives of different health insurance schemes.

### **The Overall Effects of Health Insurance Schemes on Patterns of Drug Use and Care**

In response to payment incentives of health insurance schemes, some hospitals had a policy to contain costs of drug use in capitation patients, while some hospitals had a policy on equal drug use for all, regardless of health insurance schemes. The main reason for the equitable policy was that hospitals do not want to take a risk to be sued by patients for double health care standards. Normally, the disparity of policies relied on decision making of hospital administrators. Hospitals with financial problems tended to have a policy to limit use of expensive drugs for capitation patients in order to survive their organization. Hospitals with financial problems but still implement a policy on equal drug use for all had a tendency to confront cumulative financial problems. Regarding care processes of laboratory tests and physical examination, hospitals had no concern. The different patterns, normally, rely on consideration of physicians.

Beyond the effect of policy on drug use, prescribers had their own deliberation for patients in different health insurance schemes with regard to financial status of the hospitals. Their concern had an effect on patterns of drug use depending on payment incentives. Capitation patients tend to be prescribe inexpensive ED drugs, while fee-for-service patients seemed to be expanded an opportunity to access to new high cost drug, especially after the 30-Baht Policy implementation.

These findings of increase access to high cost drugs of fee-for-service patients more than capitation patients are consistent with many previous studies in Thailand (Bryant and Prohmno, 2005; Srisuphan, et al., 2004; Chansung, et al., 2003; Limwattananon S., Limwattananon, and Pannarunothai, 2004; Srisuphan, Sripairoj,

and Tangcharoensathien, 2004; Tantivess, 2002; and Mills, et al., 2000). In addition, the similar findings of many international studies (Shireman, et al., 2002; Chaix-couturier, et al., 2000; Shih, 1999; and Hutchinson and Foley, 1999). However, these cross-sectional or longitudinal studies with two points of time before and after certain policies implementation can not elucidate the interaction among schemes including cross-shifting from one scheme to other schemes or cross-subsidization.

Regarding laboratory tests and physical examinations analysis, health insurance schemes appeared to have a very weak effect on the patterns of care processes provided to patients. These patterns agreed with both official hospital policy and physicians' concern. The modest differences found seemed to be the effect of individual physician. The severe under ordering of required laboratory tests and physical examination might be an effect of deprivations of update on knowledge of physicians and quality of care monitoring mechanisms, for example, official clinical practice guidelines implementation of hospitals.



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